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SIR JOHN SOANE'S life, as a man, is yet to be written. It would be a strange and not uninstructive relation; and, if it can be obtained in its fulness, and free from bias, is much to be desired. In a few years it may not be possible. His career as an artist was ably sketched by a friendly hand, within a week after his funeral;* but something more concerning the architect of the Bank, and the founder of an extraordinary museum which will one day be made more available to the public than it is now, is wanted, and will be even more sought for hereafter than at this time. His architectural works are being rapidly effaced; there is no worthy engraved record of his designs; his opinions, so far as we know, are only to be found in his locked-up MS. lectures; and although so recently dead, he is positively a man unknown to the rising generation of architects.

Soane, or Soan, as he at first wrote himself (and even this, we have heard was not his right name), rose like Sir Robert Taylor, of whom we gave a notice a few weeks ago, from the humblest position to the summit of his profession; amassed a large fortune; and refused a baronetcy, perhaps to punish a son. He had much shrewdness, great ingenuity, and considerable love for art. His munificence on special occasions was unbounded, and his bequest for the relief of architects' families will keep his name in grateful remembrance long after his failings are forgotten.

With the view of placing before our readers the most important works and the principal events in his life, in few words, we shall next week give a valuable chronological statement by Mr. George Bailey (long a confidential and zealous assistant of Sir John, and now the curator of his museum), which was originally appended to Mr. Donaldson's memoir.

Mr. Tite, on Monday last, laid before the Institute of Architects, his notes of part of the course of lectures delivered by Sir John Soane to the students of the Royal Academy in 1817. He did this for three reasons: first, to recur to a period of what he considered, most successful teaching in the life of a professor who was one of the most liberal patrons of the Institute; secondly, to exhibit part of the series of drawings, used to illustrate the lectures, which he was enabled to do by the kindness of Mr. Bailey, the curator of the Soane Museum; and, thirdly, that he might urge again upon the students, the value of making notes of papers read to them. On this latter point he laid considerable stress. To use his own words:—

"I have often urged upon the students of the Institute, the advantage of taking notes and memoranda of the various papers read, and of the discussions that follow. The obvious advantages of such a proceeding, one would imagine would require no advocacy in argument,—and yet, even with the stimulus of a most handsome prize, the recommendation I have myself given so often from the chair, seems in the result to be to a considerable extent disregarded. The reasons of this appear to be, firstly, that it is much more agreeable to listen to be amused than to listen to be instructed—and next it is suggested, that the notes published in THE BUILDER are more ably condensed than can be obtained by the student in his own way. The first reason I think probably suggests the second, and I answer that all good teaching must be real—that in our universities and schools teaching by lectures is universal; but that merely listening makes such teaching valueless; the mind wanders; the thoughts are turned aside by the object before the student; memory is imperfect, and then again the subjects, the remarks, and the opinions of the lecturer cannot be referred to with the vividness and the interest given by a memorandum made at the time. Then, again, all these reasons apply with the same or greater force, to the suggestion that the lecture or paper is reported. It may be that want of leisure or of inclination prevents the reading with attention, if at all; and the absence of the illustration, which may have been forgotten, deprives the instruction of half its value.

From all these considerations, I urge upon my young friends the advantage of making notes for themselves, in order that they may profit by the teaching; and I assure them, that though at the time they may even find the subject dry, and the exercise fatiguing, they will often be compensated in after life by the possession of facts, the importance of which they did not perceive at the moment, and that habit will make even the labour of note taking agreeable and amusing."

After alluding briefly to the principal events in Sir John Soane's life, he proceeded to say, that the scope and design of the series of lectures to which his notes referred, were the general principles and history of architecture, and its practical application. He should confine himself on the present occasion to the three first; and had to remark, that Mr. Bailey had obtained for him some extracts from the lectures themselves, to render his own notes clearer in parts. The first of these extracts shewed the intention of the lecturer.

"I shall endeavour," Soane said, "to give the result of a life of study and application in the pursuit of architectural knowledge, in plain and simple language, in the manner as, I hope, will be found most useful to the young student in our art, and the best calculated to promote a general knowledge of architecture, and a due appreciation of its extensive powers to add to the charms of society."

He combatted very strenuously the doctrine of Rousseau, propounded at Dijon, that the arts were injurious to morals, and claimed for architecture a high place amongst them, on the ground that the other arts were subservient to architectural decoration. It was necessary, however, that architects should not be mere copyists:—

"'Painting and sculpture (says Sir Henry Wotton) are two arts attending on architecture, like two of her principal gentlewomen, to dress and trim out their mistress;' and it may be added, that if the architect does not think and feel as a poet,—combine and embellish as a painter,—and execute as a sculptor, he will never reach the excellence of a Palladio, a Jones, or a Wren. Such a man may be useful as a builder, but he will never rise in his profession, above that mediocrity which the learned professor of painting* has so justly defined to be a state that art can never permit."

He agreed with Vitruvius in thinking it necessary that an architect should understand not merely geometrical drawing, but perspective. Geometry was essential to him, and arithmetic too, said Mr. Tite, as we too well know in these days. Vitruvius strongly inculcated attention to moral duties, and so did Soane as the first requisite for honourable success. In connection with this, Mr. Tite commented on what he considered our present absurd mode of payment to architects, which, if an architect did not always make his duty to his employer overrule all personal considerations, would lead to evil.

Under Colbert, an Academy of Arts was established in France; in England it was long before similar advantage was given to the arts; the Duke of Richmond's gallery and the Incorporated Society of Artists, afforded the only opportunities to artists till the establishment of the Royal Academy in the reign of George III. Tracing the history of architecture amongst the Egyptians, Greeks, and Romans, he described various buildings in each country. Like the pyramids of Egypt, the Mausolea of Adrian, Caius Cestus, and Cecilia Metella, although immense masses, were calculated only to contain one body. He objected to the use of caryatides in modern buildings. The application of ancient examples required judgment and taste. Nothing should be admitted that was not founded on principles. Scale made a great difference The application of the "orders" one over the other at the Coliseum, was effective, while at Castle Ashby (the comparative smallness of which was shewn by drawings) it was absurd. Amongst instances of a bad application of ancient examples, he instanced the arch at Wilton, with the equestrian figure of Marcus Aurelius upon it, which was placed on a hill with steps up to it, so that no carriage could pass through it.

The drawing of this arch, which has been appealed to lately in connection with the preposterous conjunction at Hyde-park-corner, enabled Mr. Tite to point out how widely different the proportion of the figure to the arch was, in this example at Wilton, from that at Hyde-park-corner, and to say one more word in utter condemnation of the latter arrangement.

Returning to the architecture of the Greeks, Soane said they went to nature for their models and were right in doing so. He considered (we don't, by the way), that they derived their architecture from the wooden huts.

"The primitive huts and cabins were, according to the same writers,* formed with the trunks and branches of trees, and the roofs covered with reeds, mud, and clay; and in the Iliad we read,

"Pelides lofty tent,
Of fir the roof was raised, and cover'd o'er
With reeds, collected from the marshy shore."

Triglyphs, to be consistent with principle, should not be used inside. (?)

The finest examples of Greek art he thought perfect; he said:—

"In the temples of Minerva and Theseus, we have simplicity of form, and unity of parts, combined with fitness;—there is a grandeur and solemn majesty in them, mixed with a soft repose,—a depth of light and shade, with contrast and variety, regularity and uniformity, making together so perfect a whole as can only be surpassed by the works of the Great Architect of the Universe, who made 'this brave overhanging firmament,—this majestical roof fretted with golden fire,'"

The second lecture treated chiefly of the orders and their application in the ancient temples, the peculiarities of which were pointed out. These, he said, should be studied:—

"Although temples are now only required, and that but occasionally, in pleasure-grounds, yet such principles of beauty, proportion, and harmony, will be acquired from the study of these ancient buildings as will apply generally; the student should therefore be fully acquainted with the different forms and constructions of the temples of paganism. In them he will discover many of the great principles of art,—in them he will learn many of the laws of

* "A Review of the Professional Life of Sir John Soane, Architect, R.A., &c." By T. L. Donaldson, Hon. Sec. Institute of Architects, &c. Williams, 1837.

* Fuseli.

* Herodotus, Vitruvius, &c,

composition; he will observe the beauty of form, and the correct application of the sublime to architecture; the whole so fully understood in those great works, and which are so far applicable in every species of building, whether public or private, great or small, as must amply reward the student for his labour. Be assured, my young friends, the hand of the artist and the mind of genius is as correctly traced in the humble dwellings of individuals, as in the magnificent palaces of the great; nay, to give an interest to small edifices, of moderate expense, requires more than ordinary knowledge, judgment, and taste."

Amongst the incidental opinions expressed was this, that he regarded Lord Elgin's labours in obtaining for England the marbles which bear his name, as mistaken zeal. (?)

In the third lecture the examination of the orders was continued. Vitruvius was silent as to the Composite. The arch of Titus was the finest example of it: the Temple of Bacchus near Rome was another. Tuscan buildings were chiefly constructed of timber, and this accounted for no examples reaching us. St. Paul's, Covent Garden, and the Water Gate, at York Buildings, were careful specimens of this style, taken from the description given. It was curious to find that after the lapse of 2,000 years no improvement of an order had been made, nor had even a new moulding been added. The capital employed by Dance at the British Institution, which excited notice at the time, was probably to be found amongst ancient varieties, of which there were many. A new capital had been sought like the philosopher's stone. About the year 1600 attempts were made to design one in Italy, France, and other countries, but unsuccessfully. To use Sir John's own words:—

"That our young architects may not lose their time in such a useless pursuit, I shall select specimens of what have been called 'New Orders,' produced in this country.

The late Mr. Adam, with an inventive mind and elegant fancy, produced a 'Britannic Order,' but like the French and Spanish orders, the great novelty is in the capital.

In a work entitled 'A Proposition for a New Order of Architecture,' the author, after speaking of the injudicious and unsuccessful endeavours of all those who preceded him, treats us with a sixth order, absolutely new in its proportions, its ornaments, and all other parts, the whole forming a composition suitable to the glory of his country.

Such is the author's description of his novel composition, the effect of which may be seen more distinctly than by a drawing, in the portico of a villa of no inconsiderable extent in the neighbourhood of Windsor.

The composition of Mr. Adam, however, must not be blended with this proposition for a sixth order, nor with the 'new great order' of Peter de la Roche (a French priest), who discovered about forty years ago that it was from *self-taught*, and not from mere *bred* architects that the art must receive every considerable improvement.

The origin of this new order he ascribes to an incident in the English history, far more interesting than even the basket of Callimachus:—

'In the reign of Edward III., the Prince of Wales, at the battle of Cressy, amongst other successful darings, killed the King of Bohemia and took his banner, whose ensign was the royal diadem of Bohemia, with three ostrich feathers placed in it. With this princely badge (says Peter de la Roche), I adorn the capital of my new order, and in nature nothing can be more fit for the purpose; the feathers tenderly bending in the manner of volutes, gives a superior delicacy to the Corinthian capital, and from this delicacy in the capital, and the nobleness of its origin, it may rank above the gorgeous Corinthian.'

'This new order (continues the author) only wants antiquity, and when hereafter it is found amongst ruins, it may then, perhaps, please those whose want of taste and genius to distinguish original merit, would have condemned this grand and unique composition at its birth; and although the present age may not have sufficient liberality to approve my design, posterity will most certainly do it justice.'

Such justice, said the speaker, that it is not likely to be ever found amongst ruins! The ancients, continued Soane, paid much attention to character and situation. Students should not lose sight of its necessity,—the theatre should be gay, the temple solemn. Speaking of columns, he said he considered them grand when plain, elegant when fluted, and injured when rusticated;—an aphorism Mr. Tite thought worthy of remembrance. Soane viewed with indignation the destruction of ancient monuments, and referred to the pasquinade, "*Quod non fecerunt Barbari, fecit Barbarini*," applied to one of that family, who took some of the finest columns of the Parthenon to build the Baldaquino of St. Peter's.* The pedestal and attic he considered, should never be used but as a matter of absolute necessity. Of the circular temple at Baalbec, much was not to be said as to its classical correctness, but the variety and play of light and shade were deserving of attention and praise. Sir John's own drawing of this building was made by stealth in the moonlight. The remains of ancient temples were the sites of modern villages:—

> "There in the ruins, heedless of the dead,
> The shelter-seeking peasant forms his shed;
> And wondering man could want the larger pile,
> Exults and owns his hovel with a smile."

Isolated columns were best adapted for every use, but both ancients and moderns had used portions of columns. Still, mutilations in art ought always to be avoided. As architecture declined, principles were lost sight of; and thus in Diocletian's palace and the baths we find columns hoisted on brackets, and other liberties of a barbarous kind.

He thought columns not adapted for internal decoration: if the ancients used columns in the interior of their houses, it was but seldom. Vitruvius directed internal columns to be of a light and gay character. There were no internal columns in Pompeii, nor in Adrian's villa; nor does Pliny mention them. When used internally, frieze and cornice should be omitted,—their place being supplied by a few mouldings. A column in the centre of a portico or building he considered very objectionable. When columns where used over columns, the inferior cornice should be omitted altogether. "Throughout his lectures," said Mr. Tite, "Sir John Soane constantly alluded to the laborious nature of the profession; and I cannot better conclude my present reminiscences than with the following extract:—

"'The student in architecture in this country labours under very peculiar disadvantages; he has many, and more serious difficulties to encounter than either the painter or sculptor; and although architecture has too often been treated, by those who do not know its powers, as an inferior branch of the fine arts,—a sort of mechanical profession within the grasp of every common mind,—candour must admit, that, however arduous the task, however difficult the undertaking, to form a painter, or sculptor; to make an architect is not less so.'"

The lectures being somewhat discursive,—the notes of them necessarily more so,—we have found considerable difficulty in laying before our readers the more striking points in a connected form. We have before us our own notes of the course delivered by him in 1835,—but the present notice has already extended to so considerable a length, that we must seek some other opportunity for the consideration of them.

* Byron's paraphrase of those lines, in application to Lord Elgin, will be remembered by our readers:—"What the Goth would not do, the Scot did." Smart, but unjust.

ON THE SCULPTURES FROM THE SEPULCHRE OF MAUSOLUS, AT HALICARNASSUS.

The sculptures which form the subject of this paper have, it is hardly necessary to state, been recently brought to England from Bodroum, in Asia Minor, the site of the ancient Halicarnassus, and are reputed to have formed part of the Mausoleum or sepulchre built by Artemisia, queen of Caria, in honour of her husband, king Mausolus. They were found in a fortress at the entrance of the harbour; having been used in the construction as building materials, and inserted in the faces of the exterior and interior walls. This fortress was built by the knights of Rhodes, probably shortly after the year 1400. Thevenot one of the first European travellers who visited the fort at Bodroum, in the middle of the seventeenth century, describes these marbles as *des bas-reliefs fort bien taillés*, inserted in the walls, which were further ornamented with the escutcheons of the knights, and inscribed with Latin sentences, and the date 1510. From the visit of Thevenot, in the seventeenth century, to the present day, these sculptures have been little examined, partly because Bodroum lies a little out of the ordinary route of Eastern travellers, and partly from the jealousy of the Turks, who would not permit an inspection of the interior of the fort. About 1750 these marbles were drawn by Dalton, and published in his "Views in Greece and Egypt." They are described by Choiseul Gouffier, in his "Voyage Pittoresque," and by Mr. Moritt, as quoted in Dr. Clarke's travels. A sketch of the slabs inserted in the interior walls of the fortress is given in the second volume of the Ionian Antiquities, published by the Dilettanti Society; and they are noticed by the more recent travellers, Prokesch von Osten, and Mr. Hamilton; neither of whom, however, succeeded in inspecting those in the interior of the fortress.

The scanty and occasional notices thus furnished by travellers were not sufficient to satisfy the curiosity naturally felt in Europe with regard to these sculptures. From the belief that they had formed part of the Mausoleum, a building in the decoration of which the most celebrated artists of antiquity were employed, it was thought, not without reason, that in them would be found, as in the Parthenon, the characteristics of a great school of sculpture; and that they would furnish a marked epoch in the history of art; a standard of comparison whereby many monuments now of uncertain date might be assigned to their true periods.

A wish was very generally expressed, among the archæologists and lovers of art in this country, that these marbles might be removed from their perilous and obscure situation at Bodroum, and brought to England. In accordance with this general desire, Sir Stratford Canning, her Majesty's minister at Constantinople, most zealously and indefatigably exerted himself to obtain the permission from the Porte to remove the bas-reliefs. His most praiseworthy efforts have been crowned with success; and these sculptures, which have excited the curiosity of European archæologists during half a century, and which must always remain objects of peculiar interest to the student of Greek art, are now safely deposited in the British Museum.

I propose in this paper to consider the question, whether these marbles formed, as is commonly believed, part of the celebrated Mausoleum; and, in so doing, I shall offer a few remarks, first, on the locality where they were found; secondly, on their character as works of art; thirdly, on the subject they represent; and fourthly, on the structure of the building to which they are supposed to belong.

In order to determine where the Mausoleum stood, and its position relatively to the spot where these marbles were found, I shall endeavour to place before you the plan of the ancient city of Halicarnassus, so far as it can be gathered from the notices of ancient authors, and the researches of modern topographers.

The chart from which the plan before you has been enlarged, for which I am indebted to the kindness of Captain Beaufort, has been drawn up by the hydrographers on that coast. It exhibits the modern town Bodroum, and such remains of the ancient city as are now to be traced. You will perceive that the harbour

is shaped like a horse-shoe; that the hills curve round; that the greater part of the modern town is built between their base and the harbour; that the fortress from which the marbles were taken stands on a rock projecting into the sea, and forming one side of the mouth of the harbour.

Of the ancient city, Vitruvius has left us a very minute description. His words are as follows:—"Mausolus, perceiving that Halicarnassus was a place naturally fortified, a good depôt, and convenient harbour, made it his royal residence. As the form of the site was curved like a theatre; on the lowest ground, near the port, was placed the forum. Along the curve, about halfway up its height, was made a broad street; as it were, a *precinctio*. In the centre of this street stood the Mausoleum, constructed with such marvellous works, that it is considered one of the seven wonders of the world. In the centre of the citadel above was the Temple of Mars, containing a colossal statue, such as are termed *ἀκρόλιθοι*, made by the illustrious hand of Telochares; or, according to others, of Timotheus. On the summit of the right hand extremity of the curve, the Temple of Venus and Mercury, close to the fountain Salmacis. Now, in like manner as, on the right hand, was this Temple of Venus and Mercury, and the above-named fountain; so, on the left horn, or extremity of the curve, stood the royal palace, which king Mausolus placed so as to suit his own designs; for from it can be seen on the right hand the forum, the harbour, and the whole circuit of the walls; on the left a secret port so concealed under the mountains, that no one could spy or ascertain what was going on there; that the king from his own palace might, without the knowledge of any one, see to all that was necessary to his fleet and army."

Few cities of antiquity have been described as distinctly as Halicarnassus in this passage; and though some of the expressions of Vitruvius are of doubtful interpretation, the greater part of his topography may be recognized in the Admiralty plan before us. We may in the first place assume, that the theatre-like curve on which the city was built was wholly contained within the circuit of the ancient walls, as traced out in this map. We find this curve at once in the outline of the harbour. Taking the three central points first—the forum will be the lowest of the three, *in imo secundum portum;* half way up the height, *per mediam altitutidinis curvaturam præcinctionemque*, a broad street, in the centre of which was the Mausoleum; in the centre of the citadel above, *in summâ arce mediâ*, the Temple of Mars; on the highest part of the right hand extremity of the curve, *in summo cornu dextro*, the Temple of Venus and Mercury, close to the fountain of Salmacis; and on the opposite height, at the extremity of the curve, the royal palace of Mausolus.

The phrase, *in summâ arce mediâ*, which I have translated, "in the centre of the citadel above," is of doubtful interpretation, and does not fix with accuracy the position of the Temple of Mars. From the whole context, however, we may infer that it stood on the high ground north of the Mausoleum. It may be objected that we have no mention in any other author of a citadel in this place; and that we may rather suppose, from the statement of Strabo and Arrian, that there were only two citadels; one in the harbour, the other, as its name, Salmacis, would imply, near the fountain, on the left, which I have just mentioned. But it by no means follows that there was not a third citadel immediately under the north wall, corresponding, perhaps, to that which Arrian describes as being the nearest to the side of the inland town, Mylasa. Or again, it is possible, that the word *arx* is used by Vitruvius, in this passage, to express the fortified heights rather than an acropolis. I now come to the expressions *in summo dextro et in summo lævo cornu*. Now, on turning to the Admiralty map, it seems evident that the two points, the rock on which the Turkish fortress stands and the opposite projection, must be, the first, the site of the palace of Mausolus, the second, that of the Temple of Venus and Mercury, close to the fountain Salmacis.

While adopting this arrangement, as the most probable that I can suggest, I must add, that it must be regarded as only a partial adjustment of the plan of Vitruvius. The palace of Vitruvius, placed on this rock, might, it is true, command a very extensive view of the town to the right; but where is his little secret port to the left, mentioned also by Scylax of Caryanda as the closed port, and corresponding apparently to the smaller closed port at Rhodes; from the plan of which city that of Halicarnassus was perhaps borrowed? Was it a mere dock, roofed over like a modern dock-yard, to conceal it from observation, and since filled up by the sea? Where, again, is the island Zephyria, which the sea, according to Pliny, joined to the main land of Halicarnassus? Where is Arrian's citadel in the island, which Captain Beaufort and other excellent authorities place in Arconnesos, an island at some distance; though the words of Arrian would imply its immediate proximity to the town. Where, lastly, is Arrian's citadel of Salmacis? None of these questions have as yet been satisfactorily solved. I will only on this occasion allude to them, as difficulties which are a fit subject for researches on the spot. The point which is more immediately interesting to us at this moment is, does the plan before you answer to the description in Vitruvius to the extent that I have proposed; that is, in its main features? If so, the Turkish fortress is built on the site of the palace of Mausolus. The site of the Mausoleum must be sought for where I have placed it. This part of the town is, as you see, occupied by the modern street. No foundations of any ancient public edifice have, I believe, been found here, except the remains of a Doric temple; and a little higher, under the wall, the remains of a building, the walls of which Mr. Hamilton states to be of Hellenic masonry. Neither of these buildings appear to have any well-grounded claim to be considered the Mausoleum; nor, as far as I am aware, has such claim ever been very strongly maintained. The Doric temple, in the judgment of Choiseul Gouffier, appeared of a time certainly later than the Mausoleum; and his opinion seems borne out by the views and sections given in his work, and by the late character of the Greek inscriptions, with which the columns are inscribed; though these might, certainly, have been added at a subsequent period.

The other building Mr. Hamilton conjectured to be the Mausoleum, because the measurement of one of its sides, about 100 feet, seemed to correspond with the dimensions of the sides of the Mausoleum, as given by Pliny; but this is an argument to which, as I shall subsequently shew, no great weight can be attached.

If, as I have shewn, the Turkish fortress does not occupy the situation of the Mausoleum, but more probably of the palace of Mausolus; we must suppose that the sculptured slabs in its walls were either part of the materials of that palace lying *in situ;* or that, if originally part of the Mausoleum, they were brought down from the higher ground. History has not left us very much information as to the building of this fortress. We find in the Byzantine historian, Ducas, xxi. p. 64, that the grand master of the Knights of St. John, taking out with him squared stones, bitumen, timber, and other building materials, from Rhodes, built the fort of Petronium (whence the modern name of Bodroum is said to be derived) in Caria. Bosio, in his history of the knights, records the same building of the fortress in the grand mastership of Philibert de Naillac, A.D. 1399, a date rather earlier than that given by Ducas; and adds that it was built on the site of the ancient Halicarnassus. Fontanus, the historian of the siege of Rhodes, of which he was a contemporary, states that a German knight called Henry Schegelhold used in this building the materials of the Mausoleum. His words are, *ex ruinis Halicarnassi, piramidibusque Mausoli sepulcri.* There is no difficulty in supposing that the slabs from the Mausoleum may have been transported such a short distance as from the middle of the town to the fort. We have indeed some reason for believing that some of these slabs were carried across to the neighbouring island of Cos, and there used in the construction of another fortress which has been recently visited by Sir Charles Fellowes, and in the exterior walls of which he observed three bas-reliefs, very similar in style to those of Bodroum.

I will now proceed to examine whether the character of the art, the nature of the subject represented, or the measurements of these slabs, as compared with the structure and dimensions of the Mausoleum, enable us in any degree to connect them with that building. First, as to the character of the art. Is the style of the Bodroum marbles that of the period of the Mausoleum, B.C. 353? Are they worthy of the great reputation of the artists by whom the sculptures of the Mausoleum were executed, and of the praise bestowed by Pliny and Vitruvius on those works? The first of these questions it is not very easy to answer.

Of the remains of ancient art, that have being preserved to us, there are few which we can assign with certainty to the century immediately preceding Alexander the Great. The works which have been conjecturally assigned to the hand of Scopas and Praxitiles, such as the group of Niobides, present very little analogy with the Bodroum bas-reliefs; but these two kind of sculptures, even when executed at the same period, often present essential differences in design and treatment. There exists, however, a specimen of basso-relievo which we can assign to this period; the charagic monument of Lysicrates, executed, as appears from the archon's name upon it, B.C. 334. On comparing this with the Bodroum marbles, we may perceive very considerable resemblance in style. In both bas-reliefs, the extreme elongation of the forms, and the spareness, if not meagreness, of the muscular development, at once strike the eye. Something of the same lengthiness of type may be traced in the design of some of the silver coins of Tarentum, which, we have reason to believe, are not much later than this period. These peculiarities of style in the Bodroum marbles may be fairly compared with Pliny's expression, in speaking of the changes of style introduced by Lysippus and Euphranor; of the former of whom he says, that he made the bodies of his statues "*graciliora siccioraque.*" These artists flourished at the period to which we would refer these marbles; and it is highly probable that the new style introduced by them would have its influence in the decoration of the Mausoleum.

The consideration of the probable date of the Bodroum marbles, so far as it can be inferred from the style of the sculpture, leads at once to the question as to their merit as works of art. The idea which they suggest is that of works executed rather in the decline of Greek sculpture, than in its finest period; made rather for the subordinate purpose of architectural decoration than as the *chef d'œuvre* of great artists.

The general composition is not deficient in that union of symmetrical balance with variety of grouping for which Greek art is so distinguished; but the action has something of a theatrical character; the attitudes of the figures are strained; the forms, as I have already noticed, meagre, and unnaturally slender. Admitting that their original beauty has been much impaired by time, weather, and mutilation; it is difficult for us to imagine that we contemplate in these marbles the productions of such artists as Scopas and Praxiteles, and of those thought worthy to be their rivals, Bryaxis, Leochares, according to others, Timotheus, the sculptors of the Mausoleum. We learn from Vitruvius, that they severally decorated one side of the Mausoleum with sculpture, and that they vied with each other in this great work. With such zeal was this rivalry maintained, that in Pliny's time, a period of the most refined criticism, it could not be decided which artist had performed his task best. The occasion was worthy of their efforts. They were called upon to celebrate, by the highest effort of genius, the memory of a great prince, at whose funeral obsequies the chief poets and rhetoricians of Greece contended for the prize. Whether the Bodroum marbles are worthy of the greatness of the occasion, and of the fame of the artists, is a question which I leave to more experienced judges to determine.

The story told in these bas-reliefs is a combat of Amazons and Greek warriors; and it is a very natural matter for speculation, how far the subject here represented may have reference to some portion of the mythical history of Caria, or of the house of Mausolus. The combat of Amazons was one of the most favourite themes of the Greek artist. The subject had a peculiar charm for the Greek mind, as a figurative or typical mode of expressing the deliverance of the Hellenic people from the Persian yoke. The Amazons, a

nation of female warriors, living in the north of Asia, about the river Thermodon, are said to have made several expeditions against the Greeks. On one occasion they invaded Attica, and were defeated by Theseus, who slew their queen, Hippolyta. It was thus with peculiar propriety that in the same building, the Stoa Poicile, the Athenians represented in one picture the battle of Theseus with the Amazons, the close of the siege of Troy, and the battle of Marathon; thus commemorating, in one great design, their mythical and historical victories. We find this subject, so congenial to the Greek mind, repeated in a variety of forms. Pictures of combats of Amazons adorned the temple of Theseus; and the same myth was represented on the shield of the statue of Minerva, and the base of the throne of Jupiter Olympius, the works of Phidias; on the frieze of the temple of Apollo Epicurius, at Phygalia; and on a number of Greek fictile vases, which have been preserved to us. Turning from Greece to Asia Minor, we find the battle with the Amazons, represented on a variety of monuments, which probably commemorate the victories of the Greeks gained in Asia Minor, at the siege of Troy, and on the occasion when the Amazons invaded Ephesus. They are peculiarly connected with Ionia. The city of Smyrna, in the first century of the Christian era, claimed them as its founders. At Ephesus they are said to have founded the temple of Diana. On the coins of these two cities, struck in imperial times, we find figures of Amazons, and their combats on the frieze of a temple at Magnesia, now in the Louvre. Descending from Ionia to Caria, we find fewer traces of this myth. As far as I know, there is no mention of their presence so far south, in any of their invasions of Asia Minor from the Black Sea; but on the coins of several cities in Caria, Plarasa, Nysa, Mylasa, Tripolis, we find the Amazonian battle-axe, or the figure of an Amazon, used as a type; and the myth of Jupiter Labrandæus, who is represented on the coins of Mausolus, and other kings of Caria, seems in some measure connected with that of the Amazons. He is represented with a bipennis, or battle-axe, [*Labra*, signifying, in the Lydian language, the handle,] which is said to have been taken by Hercules from the Amazon queen, Hippolyta, and given by him to Omphale. From her possession it passed into the hands of the Lydian kings, and finally was taken from the Lydians, in battle, by the Carians. Now I would not insist too much on this slender tradition; but I think that the worship of Jupiter Labrandæus, viewed in connection with the frequent recurrence of Amazonian symbols on the coins of Caria, indicates a certain familiarity with the whole myth in the mind of the nation, expressed, as all such familiar beliefs were among the Greeks, in the types of their coins; and if the myth was thus a national one, it would naturally be chosen as a fit subject for the Mausoleum of the great Carian monarch. I may further add, that the story of the Amazons may have had a real basis of truth. It is possible that this, the general tradition of Asia Minor, may have had its origin in the inroads of some Scythian people from the north; among whom, in singular contrast to the habits of the eastern nations, women like Tomyris, queen of the Massagetræ, may have had the right of reigning. This custom of female sovereignty we find in the provinces of Cilicia, Lycia, and Caria; and we may suppose it may be a real remnant of Scythian occupation, as the myth of the Amazons may be a figurative record of the same event.

The last point which I shall notice, in reference to this inquiry, is the structure of the Mausoleum itself. I would not presume, on this occasion, and before such an audience, to offer any plan for the restoration of this edifice. I will content myself with making a few remarks on the celebrated passage in Pliny. He states the length of this building to be, on the north and south sides, 63 feet; the two fronts being something less; the whole circumference 411 feet; the height of the lower part or πτερὸν 25 cubits. It was surrounded by thirty columns. Above the πτερὸν was a pyramid, also 25 cubits high, tapering to a point, like a *meta*, by twenty-four steps. On the top was a marble chariot. The whole height was 140 feet. In the memoir on the Mausoleum, by the Comte de Caylus, prefixed to his plan for its restoration, he states that he had collated the text with all the MSS. known at that time in Europe. The collation of a MS. of the tenth century, the Codex Bambergensis, has been recently published in Sillig's edition of Pliny, in which various readings, greatly to the amelioration of the text, have been discovered. In this passage, the number of feet given for the whole circuit of the building is 440, not 411 in that MS.; and it is suggested that this difference may be accounted for by supposing in the later copies a blunder of the scribe, who, having to write XL, omitted the lower limb of the L, making it 11. As it is considered by the best authorities that this circumference is not that of the base of the building, but of the exterior wall surrounding it, it is not probable that the main proportions are very materially affected by this change of numbers. There is, however, in Pliny's text, another passage where the MSS. are not all agreed, and which has been variously dealt with by interpreters. He states that the Mausoleum consisted of, first, the tomb itself, surrounded by columns, in height 25 cubits, or 37½ feet; secondly, a pyramid diminishing by 24 steps, like a meta, also 25 cubits high, and upon that a chariot; the whole being 140 feet; 12 feet being allowed for the height of the chariot. This, added to the fifty cubits, will only make 87 feet, leaving a difference of 53 feet between the sum and the parts. The restorers of the Mausoleum and the commentators on Pliny, finding this difficulty, have tried to explain it in various ways. Caylus, refusing to consider the twenty-four steps an integral part of the pyramid, and contained within its measurement, assigns a separate dimension to them, an interpretation certainly not warranted by the text. Choiseul-Gouffier adopts a reading found in a minority of the MSS., but not followed in the best printed texts, making the height 100 instead of 140 feet.

If we reject these modes of explanation as unsatisfactory, we must suppose the tomb to have been placed on a basement sufficiently high to enable us to distribute the fifty-three feet over and above Pliny's sum. The Mausoleum, surrounded by its columns and surmounted by its pyramid, may have been placed on this basement something after the plan of the tomb of Mylasa; and as in like manner, in the restoration made by Sir C. Fellowes, the tomb at Xanthus, peristyle, and surmounted by its pediments, is placed on a lofty substructure ornamented with friezes. However this may be, the restorations of the Mausoleum, hitherto proposed, seem hardly to do justice to the seventh wonder of the ancient world. In the poem "De Spectaculis," attributed to Martial, the words

"Aere nec vacuo pendentia Mausolea."

"The Mausolea, which hang in the void air," would suggest some curious beauty of structure, some masterpiece of design, such as would be natural at a time when mechanical skill was rapidly developing itself, until it attained to the daring and magnificent architecture of the age of Alexander the Great.

I cannot but express my hope that my friend, the Professor of Architecture in the Royal Academy, may, in his lectures in the ensuing spring, throw a new light upon the obscurities of Pliny's description, and produce a restoration of the Mausoleum far more consonant to the genius of Greek art than any that has ever yet been proposed. With regard to the Bodroum marbles, I have his authority for stating, that the measurements of the slabs do not afford any very remarkable coincidences with the imperfect scale of the Mausoleum, as given by Pliny. It is not indeed likely that this could be the case; for that author, giving us the dimension of sixty-three feet for the length of the two longest sides, leaves us to guess the length of the two shorter ones. I have now gone through the inquiry I proposed relative to these marbles. From the topography of Bodroum it appears that the fort does not occupy the site of the Mausoleum. From the style of the sculptures I have shewn that they are probably of the time of Artemisia. Their subject is a Carian myth; though, perhaps, with no peculiar fitness to be selected for the decoration of the sepulchre of a king of Caria. The description of the Mausoleum, in Pliny, is too general to enable us to adjust, very, exactly the measurements of this frieze to any of his dimensions. In default, then, of more direct evidence from the site where they were found; their dimensions considered architecturally; or the character of their sculpture and subject; we must be content with the positive declaration of Fontanus, that the fortress of the knights of Rhodes was built out of the ruins of the sepulchre of Mausolus; and upon the faith of this declaration we must consider that in these marbles we possess a fragment from one of the seven wonders of the ancient world.

We have received from Mr. Newton the following communication, which must be considered as a supplement to the above memoir:—

In drawing up the hasty sketch of a memoir on the Bodroum marbles, read by me at the Institute of British Architects on the 16th inst., I had not time to refer to the dissertation on this subject by Sainte Croix—*Mémoires de l' Institut, classe d' Histoire*, 2. p. 506. That learned author shews that the Mausoleum is noticed in ancient authors, from time to time, from the age of Lucian; and was still standing in the 12th century, in the time of Eustathius, the commentator on Homer—who states that it *was, and is, a marvel.* To the testimony of Fontanus, which I cited in my paper, he adds a more full and detailed account of the destruction of the Mausoleum by the Knights of Rhodes, as narrated by Claude Guichard, in his work on the *Funérailles et Manières diverses d'ensevelir*, printed at Lyons, 1581, lib. iii. 5, p. 379. In that most curious narrative we find it stated that, in 1522, when the Sultan was preparing to besiege Rhodes, the Grand Master sent some of the knights to repair the castle of St. Peter, at Halicarnassus. Looking about for materials, the knights found, in the middle of a level near the port, some steps of white marble. Making use of these in their repairs, and finding the stone good, they continued to excavate on this site. As they dug deeper, they found the base of the building enlarge; and, at the end of four or five days' excavation, they came to an opening like the mouth of a cave; entering which, they arrived at a great square room, surrounded with columns of marble, with their bases, capitals, architraves, friezes, and cornices, carved in half relief, representing combats and histories. The knights were at first struck with admiration at the beauty of this work; but, shortly after, broke and destroyed the whole of it,—using it as materials. Besides this hall, they found a door leading into another,—as it were the antichamber; where was a sepulchre of white marble, of marvellous beauty and brilliancy, with its base and its crest, which they had not time to examine; the trumpets having already sounded the retreat. On returning to the spot, next day, they found the tomb opened and rifled, and quantities of fragments of cloth of gold and spangles of gold strewn about,—probably the work of pirates in the night. "Thus," says Guichard, "this superb sepulchre, one of the seven wonders of the world, after having lasted 2,247 years, was discovered and destroyed by the Knights of Rhodes, to repair the castle of St. Peter."

He further states, that this account was communicated to him by Dalechamps, one of the most learned of his contemporaries, who had the narrative from the *Commandeur de la Tourette*, one of the knights, a native of Lyons, present on the occasion of the discovery. By Dalechamps, I conclude he means the well-known editor of Pliny.

Though there is always just ground for caution in the reception of stories so singular as that of Guichard, neither the source from which it is derived, nor the internal evidence of its details, appear at all such as to lead us to doubt the general correctness of the narrative.

One circumstance in the discovery presents a very curious coincidence. The sepulchre is described as being found *avec son vase et son tymbre.* I have translated the latter word crest, though it may rather mean the whole funeral panoply. In either case, it is worthy of remark, that we know, on the authority of Thucydides, that the Carians were in his day found buried with their armour; and the scholiast on the passage adds, that, being the inventors of shields and crests, in token of this, a *little shield* and *a crest* was always buried with a Carian warrior. The *tymbre* of Mausolus would be placed on his sepulchre in accordance with a Carian custom. The narrative of Guichard suggests many more remarks and inquiries than I have at present time to enter

into. I will only here observe, that if, with Sainte Croix, we receive it as authentic, we must suppose two excavations of the Mausoleum by the knights—the first, when Henry Slegelholt built the fortress,—the second, a century afterwards, when the walls were repaired just before the siege of Rhodes.

CHARLES NEWTON.

MODERN BELGIAN ART.

MESSRS. WAPPERS AND CONSCIENCE, the director and secretary of the Antwerp Art-Academy, have of late undertaken a journey to Germany, and made some considerable stay at Munich. Their object was not merely general information, but that major one of establishing a connection between Belgian and German *art* and *mind*. Since the times of Van Eyk and Memmling, the very characteristic of Flemish art has been a naïve *German* perception of objects, and a lively rejoicing in all splendour and hue of colour. This *style* of Belgian art has, however, been obliterated at several periods—especially in the latter century, when Belgium, like whole Europe, imitated the mawkishness and the tinsel of spurious French artists. When David had formed a new art-school in France, and the best ancient pictures of Belgium were transported to Paris—both these incidents became instrumental in keeping down and neutralizing Belgian art-style; circumstances which still worsted when David settled at Brussels, and obscured by his powerful individuality every light likely to arise at his side!

It was, therefore, a great merit of Mr. Wappers, to have dispelled that extraneous art-spell, and to have formed at Antwerp a new art-school, which seems to revert to the character and brilliancy of its predecessors. This regeneration of Belgian art is the more promising and important, as it coincides with that of other branches of art, nay, that of the nation.

It is such and similar ideas which animate Mr. Wappers. He is enthusiastic in his wishes for the forming of the above art-connection and art-fusion, and thinks that, by the combination of German and Belgian art, something really grand and worthy will be achieved. Belgian painters are more skilled, and apter to the seizing of nature in frame-surrounded spaces; more skilled in the colouring and the whole technicism of art. To this Mr. W. wishes his pupils to adhere, and to improve in it if possible. But he does not overlook that, for doing any thing great in our age, a basis of free, *ideal*, and liberal *ideas* is required,—and this requisite he finds in German art, whose votaries are conspicuous for their extended studies and deep research. This desired combination of two great art-schools is now progressing adequately, and promises still greater results. The Antwerp Academy is now frequented by *twenty* German artists,* and now Belgian painters begin to go to Munich. The Belgian Government facilitate such endeavours, as two prizes of 2,500 francs are yearly awarded to such pupils whose works have been crowned at the great yearly art-exhibition. These prizes (stipends) are retained four years, and the artists went hitherto all to Italy; but of late they have gone also to Paris, and now they go to Munich. On the other aids given by Government to Belgian art, we have spoken on another occasion.†

That these new art-tendencies of Belgium hinge on and go back to their great prototype—we mean *Rubens*, is matter of necessity. But as this master was an astonishing hand at work (Mr. John Smith enumerates 1,500 pictures issued from his *atélier*), he observed that policy, to send all his inferior productions into the wide world, while the best he kept near him. Thus it is at Antwerp, where Rubens is to be alone studied in his whole completeness—in his whole greatness. Rubens's art-soul dwells in the art-treasures of Antwerp. Such precedents might have animated Mr. Wappers, whose art-exertions strangely coincided with the revolution of 1830. A month before that event, the art-exhibition of Brussels had been opened. Amongst the host of tinsel and flippancy, the picture of the siege of Leyden (1574) attracted all eyes. *There* was more in it than met the *mere* eye. Every one asked after the painter. It was an unknown pupil of the school of Antwerp—it was Wappers. A terrible reaction of all the *dunceism* followed, as might be expected, but as early as 1836 it had run its short and honourless race—and in 1839 and 1842 Wappers stood no more alone, but such men as De Keyzer, Galloit, De Biefve, &c., stood, if not beside him, at least near him. Belgium had become a realm—her painters a school. Conjointly with painting, sculpture also underwent the same regenerative process, of which Geefs, Jehott, Simonis, and others, are speaking examples.

We subjoin a list of the art-schools of Belgium—a *country* of two millions of people. Antwerp—director Mr. Wappers. Brussels, ditto Mr. Navez. The academies of Ghent and Brügge (the cradles of the Van Eyks)—then Malines, Löwen, Liège, Ypern, Alost, Bergen, &c.

* We are not aware whether any Englishmen study or have studied there.

† Vide Vol. IV. p. 475.

STUDY OF GOTHIC ARCHITECTURE.*

THE author of the work before us, except perhaps the practical knowledge acquired only in the profession, has all the requisite qualifications for the subjects he has written upon. Though popular works and lectures on gothic architecture are still numerous, it is always interesting, even to an advanced student, to see what different treatment may be given to a familiar subject, and to examine into new views on controversial points. Therefore, notwithstanding this work has much the same object and appearance as Mr. Bloxam's well known duodecimo; even by those who possess that useful work, it may be read with advantage. Our question is less with the appropriateness of a title, than with the matter that a work contains. Were it otherwise, admitting that the word "manual" may imply a portable form, we should be inclined to say, that "a Manual of Gothic Architecture" would include a much greater amount of matter than is here supplied. The term might rather mean a systematized list of examples or works in which reference is made to the style, than the subject abbreviated, as an introduction to the study, which this and similar works mainly are. But the reader will glean from the present "Manual" many valuable facts and principles, and much less of objectionable matter, than might at this moment by some persons have been expected.

Mr. Paley devotes less space to the styles, so called, than does Mr. Bloxam; and he treats them rather as features in a continuous progress than as they are popularly considered. The important features of windows and doorways are the subject of separate chapters, and other subdivisions are "the uniformity and progressive character of the gothic styles," "the principles of gothic composition, construction, and effect;" and on "the parts of churches." The work also contains an interesting chapter on monumental brasses, by Mr. C. R. Manning, the author of a lately published list. The illustrations are well engraved, mostly from examples not previously published. The author holds the opinion of the existence of many Saxon remains of early date, and makes a distinction between styles in use previous to the Conquest, which view he supports by reasoning which is worthy of attention. But we question whether his table would not be more clear, if the term "early British" were applied, and confined to remains of ante-Saxon date. His nomenclature stands thus:—

I. ANGLO-ROMANESQUE.

1. *Early British*, or *Anglo-Saxon*.
2. *Ante-Norman*, from about 950 to the Conquest.
3. *Norman*, 1066 to 1170.
4. *Transition*, 1170 to 1200.

II. GOTHIC.

5. *First Pointed*, 1200 to 1240. ("Early English," *lancet*,—single lights.)
6. *Late*, or *Florid First Pointed*, 1240 to 1270. ("*Geometric*.")
7. *Geometric Middle Pointed*, 1270 to 1330. ("Geometric," or "Early Decorated.")
8. *Complete Middle Pointed*, 1330 to 1380. ("Pure," or "Flowing Decorated.")
9. *Third Pointed*, 1380 to 1485. ("Perpendicular.")
10. *Florid Third Pointed*, 1485 to 1546. ("Tudor.")
11. *Debased*, or *Semi-Classic*, 1546 to 1650.
12. *Revived Pagan*, 1650 to 1840.

The author explains the characteristics of each period in concise terms. But he is scarcely right in assuming that the pressure of Norman vaulting is altogether "straight downwards on the walls;" an error he seems to have been led into by reliance upon Mr. Hope, whose opinion would not have weighed against Mr. Paley's own recollection of many Gothic arches, the *half* of which, he may have seen *standing*. He points out that pinnacled buildings form quite a distinct *class* from those with eave-roofs, capped towers, low walls, bold and short buttresses, &c.; and rightly remarks, that this difference in character is often unattended to. He is of opinion that perpendicular tracery, about the origin of which there has been much discussion of late, was in common use as early as 1370, and was not unknown *previously* to the era of William of Wykeham. He says, that "perpendicular" windows are found along with "decorated," when it is impossible to assign any difference in date: but, we think that in some other places, sufficient importance is not given to the retention of old forms, through the slow communication of improvements, or perhaps the instant adoption of any invention in a part of detail, in accordance with the author's general view, and with that of Professor Willis, mentioned in our reports of his lectures. The difficult questions connected with the use of the grotesque in sculpture, the identity of cœval details, and with complete revolutions in style, are touched upon. The author considers that the "masters" of the Freemasons, who have been thought to be the same as our architects, were rather the superintendents of the works, than the designers. But he seems to think, that the Freemasons had a practical dexterity which we have no conception of, and which enabled them to dispense, in a great degree, with drawings. The chapter on gothic composition is ably written, though we think that, unintentionally, rather too great stress is laid upon the supposed principle of irregularity. At least, we deem that it is a great mistake to design irregularity, as we find it in some modern works. As we have before pointed out, this would be as foreign to the principle of gothic architecture, as the reverse errors, at one time more frequent.

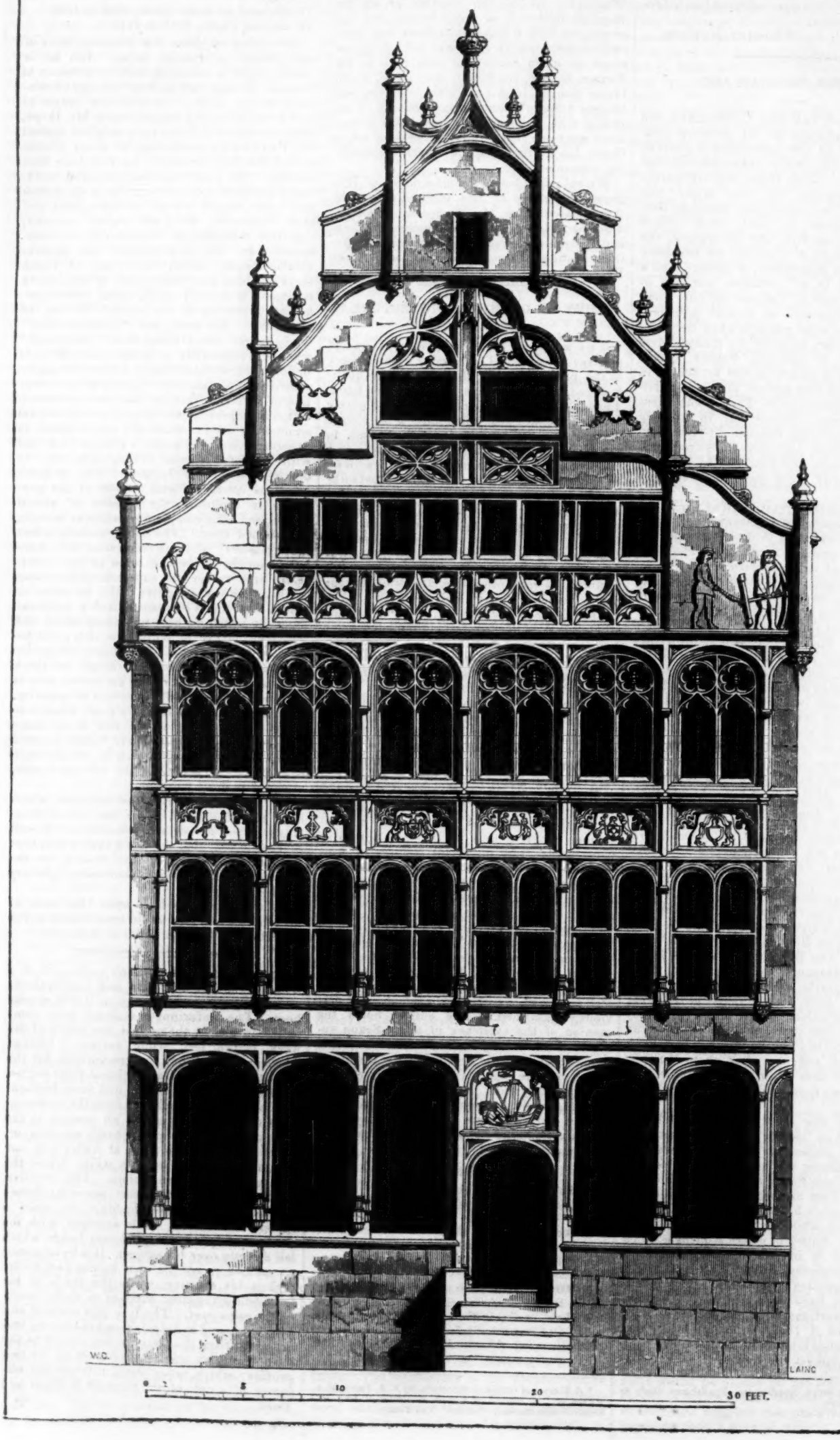
Mr. Paley differs from the opinions, which have gained ground, as to the use of those singular apertures called *lychnoscopes*. It will be recollected, that the latest theory was, that they were symbolic of the wound in the Saviour's side. (?) They are now called *offertory windows*.

On the whole, we look upon this work of Mr. Paley's as a very useful contribution to the collection of books on gothic architecture.

* A Manual of Gothic Architecture, by F. A. Paley, M.A., author of "A Manual of Gothic Mouldings," &c., with nearly 70 illustrations. London: Van Voorst.

THE SCHOOL OF DESIGN.—Sir,—It is a trite adage, that alteration and improvement are not synonymous terms; so it will appear here. The unfortunate students were compelled to absent themselves the whole of the week before last, while certain "learned Thebans" demolished the gas-burners, for the substitution of four Bude lights at right angles. These emit a much whiter and more brilliant light, which, being reflected from the numerous casts on the walls, causes all persons in the room to appear like pale, ghastly spectres, or, as we have seen the stage at Astley's in our boyish days, lighted up with white fire at the *denouement* of a pantomime. The abortive result is this—four distinct powerful flames produce four separate shadows; so, when a student is drawing, he is annoyed with the shadows of four pencils and four hands, which fall directly over his subject. It is by no means uncommon to see his own human face divine darken his drawing, while the shade of his form-fellow's contour happens to strike nearly on the same spot. The tyro gets enraged and perplexed, and in despair forsakes copying bad ornament from the German, and resorts to the pure figure, by tracing the outline of the two profiles; which, when done, reminds the observer of a coin of the reign of William and Mary.

THE WATERMAN'S HALL, GHENT.



GHENT, AND ITS ANCIENT ARCHITECTURE.

THERE is, perhaps, no place in Europe, that has more points of interest than the ancient capital of East Flanders; her treasures of art, her splendid memorials of loftier times, her grand specimens of ecclesiastical and domestic architecture, present a combination of attractions very difficult to equal. So good a general idea of the city of Ghent has been given by Roscoe in his "Tour through Belgium," that we are induced to make use of it. He says—"There is something repulsive and dreary in the first sight of the decayed massive ramparts, dark narrow streets, high garden walls, and tall pointed edifices of old Ghent; before you become acquainted with the extent and beauty of the buildings and institutions, which do so much honour to the taste and enterprize of the inhabitants. Streams, bridges, and canals; porticos, theatres, and public offices; spires, towers, and churches; saint's shrines, hotels, and seminaries, every where meet the eye as you advance, giving a high opinion of the character and habits of the people; while the antique air of the Gothic houses, and the vast monuments and remains of art bear testimony to the affluence and grandeur of its former inhabitants. It is this mixed character which gives it, like Venice, an air of solitary majesty and loneliness; broken in the same way by a number of islands formed by the confluence of different rivers—the Scheldt and the Hys, the Liese and the Moere, which are connected by a succession of little bridges. It is this, also, which presents so many striking points of view, and picturesque objects and effects to the eye of the painter; the dark waters, the hanging balconies, the shadows of the massy walls, the rich architectural ornaments: and along the Grand Canal the curious antique buildings, the fallen arch, the boats moored under some vast ivy mantled ruin, besides other parts of the ancient town, abound in localities which fix the eye and the mind by their interesting associations."

Pages might easily be filled by a mere enumeration of the antiquities of this fine old Flemish town; the great difficulty is in deciding what is worthy of the first notice, but the Cathedral of St. Bavon may fairly claim precedence; it is said to be the finest church in Belgium, and although this may be disputed, as far as architectural beauty is concerned, it is so in point of decoration. The length and height are of magnificent dimensions, and the choir a perfect magazine of sculpture. A monument by Duquesnoy, to the memory of a bishop of Trieste, deserves especial notice, as the finest work of the kind in Flanders. In the nave stands one of the pulpits for which Belgium is so celebrated; it was executed by Delvaux, a native of Ghent. It is worked in white marble and dark oak (by no means a good combination). The crypt of this church has been highly spoken of by various travellers, but to our mind it will not bear a comparison either as to extent or beauty, with some in our own country, particularly those of Canterbury, Gloucester, and Rochester.

The church is enriched by a great number of fine paintings, including some of rare excellence by Rubens and the two Van Eycks. Although the remaining churches in Ghent are quite worthy of attentive examination, we must pass them over without further notice to say a word or two in praise of the town-hall. Incomplete as it is, it cannot fail to excite the admiration of the most casual observer. It was commenced in 1481, from the designs of Jean Stassens, who died in 1527, leaving the building unfinished. It was then confided to Just Pollett, whose first business was to alter the design of his predecessor, and to complete the work in a style totally at variance with the part already executed. Had the design been carried out as originally projected, it would have been one of the most splendid edifices in Europe.

Ghent is particularly rich in ancient domestic architecture; one building possessing great historical interest is the palace of the Counts of Flanders, in which we also feel nationally interested, as it was the birth-place of our famous John of Gaunt. Although there is little of architectural detail left, it is much to be regretted that a place so full of pleasant associations should have been turned into a manufactory, yet such is the case. Another building which has shared the same fate is the old palace called the "Cour des Princes," the birth-place of Charles V. It seems rather inconsistent that a city like Ghent, proud of its magnificent relics of departed greatness, should quietly consign to oblivion two such testimonials of its former power.

By the side of the Grand Canal (finished in 1822, at a cost of one million francs), are several fine specimens of domestic architecture, the most remarkable being the subject of the illustration; it is known as Watermans' Hall, and is at present occupied as a private dwelling-house. The front is entirely of stone, and although it has suffered somewhat from time, and that more wanton destroyer, man, it is still a fine specimen of the architecture of the 16th century; the windows on the ground-floor have a centre mullion and transom of wood, evidently modern, which are not shewn in the engraving; the steps are also of recent date, part of the base mouldings of the entrance having been cut away to make room for them; some square openings of various sizes have been made in the basement, and are omitted. Judging by the abrupt termination of the horizontal mouldings, and the imperfect arches at either end, we are inclined to think that this house is only a part of a range of buildings of the same period and style; how far this conjecture is reasonable let others decide. The house is said to have been built in 1522.

One word as to the encouragement given here to the fine arts. The schools for the study of architecture, painting, and sculpture, have been celebrated from the time of Charles V., and have not yet fallen into disrepute, the Government having taken steps to procure the most approved system of instruction, and to make it available to all who may wish to profit by it. Exhibitions take place here every year, and the national exposition once in three years; at the latter, prizes are given by the government for the most talented productions exhibited. It will be seen, that in Belgium, no means are left untried to give that encouragement to art which it should everywhere receive.

Figure 2 shews the plan of one of the piers and window jambs. W. C.

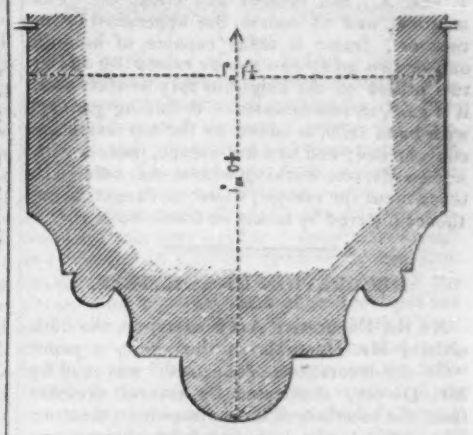
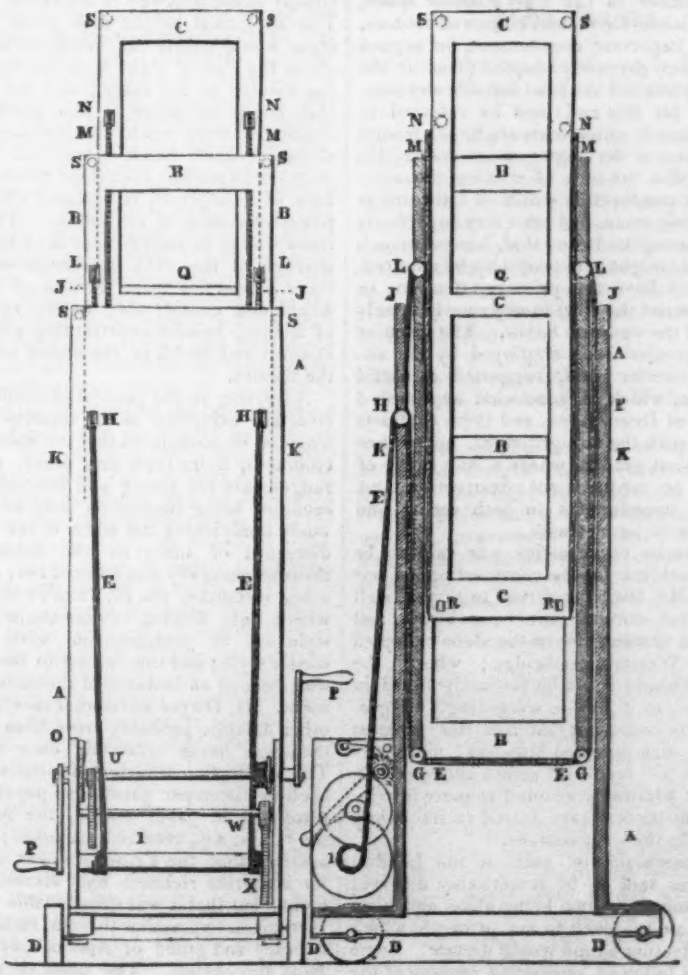


Fig. 2.

ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, OR FIRE-ESCAPE.

THE annexed diagrams will afford our readers a sufficient idea of the ingenious machine represented, without much minute description. It is an improvement of Reeves's, which gained the silver medal of the Society of Arts, and consists of a series of hollow rectangular frames, AA, BB, CC, &c., sliding one within another, after the manner of the tubes of a telescope, mounted on wheels, DD, and hoisted or lowered by ropes, EE, JJ, MM, working on rollers, GG, LL, and pulleys, HH, NN, by means of winch handles, PP, turning the barrel, I, round which is twisted the lower end of the rope, which thus passes successively along the several frames, within each other, drawing them one out of the sheath of the

ELL'S ADJUSTABLE SCAFFOLD, &c.



other, simultaneously, to the requisite height, by one simple operation; the power of which may be multiplied, when the machine has many frames, by aid of pinions, U and W; wheels, V and X; and ratchet and click, O. The smallest, and of course the uppermost or innermost, frame is made capable of holding one or two men, who can be raised by one or two others to the height of fifty or sixty feet, it is said, in two minutes. A folding gallery, with hand-rails, is added to the top frame for convenience; and as a fire-escape, ladders with hand-rails, one working within the other, are thrown out for escape; those in danger being thence lowered by tackle in frame boxes.

DECORATION OF THEATRES.

At the Decorative Art Society, on the 25th ultimo, Mr. Boulnois in the chair, a paper "On the decorations of theatres" was read by Mr. Dwyer, illustrated by several sketches from the interiors of the metropolitan theatres. The subject was introduced by observations upon the influence which dramatic art and its literature have had for good purposes, when judiciously conveyed, as being powerful auxiliaries in the education of a people, by successfully blending amusement with instruction; and Mr. Dwyer argued that the aid of decorative art, in its best developments, should always be applied in conjunction, for accelerating and promoting the grand social object of elevating the taste, and therewith the dignity, of the community. The just appreciation of the beautiful in scenic effect, now frequently displayed in our theatres, was adverted to as a proof that the production of superior decorations need only to be carefully attended to, to ensure successful and profitable results. The writer, after discussing the political use and necessity of wholesome recreations, said that he considered the best means of increasing the importance of theatres, and raising them in the public estimation, is to render them *magnificently* worthy, in every way, for the dissemination of moral truths and refinements. The prevailing coarseness, vulgarity, and slovenly disregard of cleanliness, was referred to as inducing negligent manners in an audience. He next noticed the construction of theatres; and, admitting that accommodation for the greatest number in the least possible space, with subdivisions for various classes of visitors, formed an important requirement, he argued that the form generally adopted (that of the horse-shoe) was not the most suitable and comprehensive for this end; and he referred to some positions in which seats are found, where, indeed, a view of the stage is unattainable. He maintained that the idea of making the audience feel as comfortably seated in a theatre as if in a drawing-room, had been very imperfectly if at all contemplated; and that, however much a curved side might with propriety be admired, *utility* should have the primary attention, so as not to restrict the view in any case to merely a portion of the opposite boxes. The circular and semi-circular forms employed by the ancients, the writer said, suggested a useful modification, which is somewhat approached in the plan of Drury Lane, and there contrasts favourably with the straight-sided, horse-shoe form in Covent-garden, where a long range of sittings of an inconvenient construction, and embodying impediments to both seeing and hearing, are to be met with.

An ignorance of acoustics was said to be singularly evident in the construction of our theatres. Mr. Dwyer referred to several well known forms, such as tunnels, archways, and long curved spaces; also to the stone canopied seats on Westminster-bridge; where the slightest whisper could be distinctly heard in that opposite to it; as so exceedingly suggestive, that he could not but feel the greatest surprise at such repeated blunders; more particularly as the results to actors and vocalists, with voices admirably adapted to more favourable circumstances, have proved so frequently disastrous to their reputations.

The proscenium in each of the London theatres was said to be remarkably different in arrangement; no two being alike, and none exhibiting an approach to any principle which the laws affecting sound would dictate. Some expressions followed, conveying censure of the prevailing use of massive Greek entablatures, with Corinthian columns in unusual proportions (at Astley's very lofty, at the Haymarket very short), evincing a disregard of harmony in form and proportion, from the entire absence of a medium for combining the gigantic massiveness in the one with the sub-division of parts throughout the interior of the house. The theatre at Versailles was referred to as an instance where Corinthian columns being placed on the stage, Ionic columns support the superstructure, and which, with some other arrangements, render this theatre particularly worthy of observation. Nevertheless, the proscenium there is imperfectly constructed for the distribution of sound. The writer considered the upper portion of the proscenium of Covent Garden the least objectionable of any in the metropolitan theatres, and awarded praise to the picturesque and agreeable manner in which it blends with the interior, and also as being in that part better calculated for the distribution of sound. A form of construction was then explained, which it was said would obviate the necessity for extraordinary exertions on the part of the performers, in attempting to produce an audible and satisfactory effect throughout the house. Mr. Dwyer propounded a theory which he said comprehended the principles embodied in two familiar instruments of sound, viz. the bell and the violin. He would construct two bold bell-shaped curves, diverging over not less than eight feet on the stage to the sides of the theatre. Each of these he would have composed of two thicknesses of wood, placed about six inches apart. The front one should be perforated, ornamentally, thus serving to receive and distribute equally within itself the sound given forth near to it. The elevation should assume the form of an arch, with spandrells, also perforated, thereby distributing, with distinct resonance, the words or music to all parts of the house. (A sketch in explanation was shewn.) In a subsequent part of the paper, the writer offered some remarks upon the construction of ceilings, which we take the liberty of now stating, such being apparently in immediate connection with the acoustic theory in construction last described. He proposed the use of a spherical or spheroidical roof, supported by iron ribs, which might be ornamented; the spaces between each rib to be enriched with elaborate perforations (or otherwise, according to the general style of the house) in a manner similar to the doorway in the circle at Astley's. The additional height thus given to the interior would enable the chandelier to be placed above the line of sight from the upper part of the theatre to the stage; and the objections that might be made to this position of the chandelier were met by the fact that a concave surface reflects much more than a flat one. Another important advantage arising from this form of ceiling was, the facility afforded for a powerful system of ventilation. The painting room would be raised some nine feet, and the absence of the rolls of canvas scenery and other properties from the top of the ceiling would add considerably to the reverberation of sounds, besides contributing greatly to the comfort and health of the artists belonging to the theatre.

Adverting to the general principles of construction exhibited in the theatres of the metropolis, he considered that the Surrey Theatre embraces, more than any other, the best arrangements for seeing and hearing; the proscenium being formed on bold bevel, judiciously diminishing the width of the stage. The disregard of unity in the construction of theatres generally was pointed out; and, among other instances, the St. James's was named; where light flowing ornaments in the French style are in juxtaposition with a massive classic style; and the ceiling to the Princesses was deemed an instance of discordant arrangement. Mr. Dwyer added that these, with many other defects, probably arose from everything theatrical being invariably done in a hurry. The application of various decorative materials, such as distemper paintings, paper hangings, composition, paper maché, the fittings up of the boxes, &c., received attention; and it was asserted that the Princess's was conspicuous for elaborate richness and diversity of ornament; but that it was questionable whether the Herculean expression therein, rather than the delicacy and grace of Apollo, may be deemed most appropriate. The usual enrichments on the fronts of boxes was commented on, and the use of bas-relief or raised ornament was recommended in preference to the most elaborate surface painting in panels. The velvet valances to the boxes in the Princess's Theatre were commended, but the practice of having them, as in several theatres, to extend only above the private boxes was deprecated. When it is not wished to have ornament in relief upon the fronts of the boxes, valances of this kind suspended from the cushion were suggested as imparting a peculiar and good effect.—The paper extended to a considerable length; and among the more important of the topics were ornamental iron-work, which it was said might be introduced with great diversity of design, for balconies, open fronts to the boxes, fretwork and ornaments in relief for various parts of a theatre; some remarks on the usual method of supporting the boxes by series of columns; and others condemnatory of the manner in which the tiers of stage-boxes are generally placed between large Corinthian columns. Sculpture was mentioned as offering an important adjunct in producing a higher class of decorations; and encaustic painting, as facilitating cleanliness and durability. Discussion adjourned to the 9th inst.

NOTES IN THE PROVINCES.

Her Majesty, the Queen Dowager, has contributed 20*l.* towards rebuilding the parish and deanery church of Ewell, Surrey.——The Earl of Onslow has given 200*l.* towards rebuilding Ripley church, Surrey.——From the vicinity of Poole, Dorsetshire, 37,500 tons of China clay are said to be annually shipped to the potteries: value nearly 50,000*l.*——The town council of Worcester has resolved on the establishment of public baths and washhouses.——It is reported by the *Sheffield Times* that an architect was lately requested to adopt the new church at Attercliffe as a model for the new church to be erected in the Wicker district at Sheffield; but that he "courteously but resolutely refused to damage his reputation by carrying out the design."——A Roman Catholic chapel "on a costly and magnificent scale not hitherto attempted in any part of England, with one or two exceptions" is to be erected at Sheffield. Designs by Messrs. Weightman and Hadfield have been laid before the Duke of Norfolk; and the ground, an extension of the site of the present chapel in Norfolk-row, has been purchased; though it will probably be three years, it is said, before the building is begun; exertions being only in progress towards the attainment of the means requisite for its realization.——The Guildhall, at Bury St. Edmunds, is undergoing repairs at present; improvements being made in the gateway, porch, and entrance hall.——It appears that the building for the Ipswich Museum is to be erected at the expense of the ground landlords, and let for the museum at 5 per cent. on the cost, with option of future purchase at the original cost itself.——The repairs of St. Nicholas' church, Yarmouth, are in progress, so far at least that contracts for benches and pews have been entered into, to be completed by 1st January next. These are to be temporarily used in the chancel, which accommodates 1,600 persons. The *Yarmouth Chronicle* recommends the church trustees to devote the sum of 1,250*l.* towards the reparation of the fabric, so that the restoration of exterior and interior may proceed simultaneously towards completion.——Levels and plans for the uniform and effectual drainage of the Denes, Yarmouth, are in course of preparation by the surveyor to the council.——The town of Fakenham has just been lighted with gas. The coffer-dam for the new dock at Grimsby is in progress. A new pile-driving engine is being erected. The interstices of the dam are filled in with chalk and clay, and the timbers and sheeting piles are bound with iron. Considerable advancement has been made with the work.——The nave and aisles of St. Andrew's parish church, Coston, a village seven miles from Melton Mowbray, have been lately divested of whitewash, repaired, and filled with open seats, and the chancel has been re-built by the incumbent, the Hon. and Rev. John Sandilands.——Canwick Church has also been brushed up and re-opened.——Operations have been begun for the restoration of the ancient chapel of St. Sampson, at York. The principal contractors are Mr. Laycock, mason, and Mr. Gray, joiner, whose contracts, however,

(amounting to 1,300*l.*) do not include the tower, the money for which is not yet forthcoming. The sum total requisite is 2,000*l.*, of which 900*l.* only have been yet realised.——The new church of South Otterington has been opened. It consists of a chancel, nave, north aisle, south porch, and tower, with a roof of equilateral pitch. The style is Norman, and the material stone, from Brussetton, said to be capable of retaining great sharpness; and the wood work, English oak and memel timber. The chancel windows are of stained glass, by Wailes. The sittings are mostly free. Mr. Salvin was the architect; Mr. Joseph Holmes, clerk of works; Mr. John Webster, master joiner.——The arches of the nave and transept of Hatfield Church have been restored; the body of the church painted in oak; and the exterior is also undergoing restoration, by Messrs. Anelay, builders, of Doncaster. Other improvements, including an organ, are said to be contemplated.——The contracts for the Hull Cemetery have recently been making further progress. "One of the cheapest things that ever I met with," says a correspondent of the *Hull Packet*, "is the contract for the erection of an engine-house, engine, &c., for 195*l.*" The outer drainage and surrounding culvert have been contracted for by Mr. Musgrave for 400*l.* The drainage of the ground itself, which is to be done so as to enable graves to be dug 12 or 13 feet deep, is contracted for by Mr. Harker, for 159*l.* 6s. This is the cheap contractor above alluded to. All the works are in rapid progress, and bodies will soon be interred in the cemetery.——The Queen Dowager has contributed 20*l.* towards the building of a new church at Gateshead, now in course of erection.——The famous iron bridge at Sunderland has at length been made toll free. A profit of 79,666*l.* has been reaped from its tolls since its opening in 1796. ——A new harbour is proposed to be erected at Macduff, in the north of Scotland. A plan by Mr. Bremner, engineer, Wick, has been mainly approved by Lord Fife's trustees. The probable estimate given in was about 55,000*l.*

RAILWAY JOTTINGS.

We lately, though with all the diffidence due where the opinion of so high a judicial authority as the Lord Chief Baron of the Exchequer was in question, ventured to say, that we did not agree with the chief baron in his judgment against provisional committeemen.* His lordship no longer agrees with himself, it now appears, but is veering round to our own humble opinion, so far, at least, as he has granted the application for new trials in two cases, which are at this moment exciting no little interest in the railway world and the law profession; and that on the ground, advocated by Attorney-General, and apparently held by his lordship himself, that the mere fact of a man being a member of a provisional committee was not sufficient of itself to render him liable for the debts of the company, as it amounted to no more than a promise of co-operation; unless he appointed, or assisted, actively or passively, in appointing, an acting committee or agent; for whose legitimate acts, moreover, alone, he is responsible. The *Times*, correctly we think, maintains that "if the directions of Chief Baron Pollock to the juries in the cases above-mentioned be compared with the judgment of the Court of Exchequer, delivered by the same judge, they will be deemed irreconcileable." The feeling of a portion of the press has already begun to manifest itself to be now with the Lord Chief Baron, or at least with the Attorney-General, who is thus endeavouring to shake the hitherto received notion of the liabilities of committeemen, as virtual joint stock companies; and the advice of their counsel to compromise actions, so as to avoid a worse alternative, is not now likely to be so indiscriminately followed as it has been; nor their wholesale self-inflicted exile to be longer persisted in. On the contrary, as observed by the *Bristol Journal*, "If this view of the question be admitted by the courts of law—and certainly it seems just—a host of families will be restored to their country, who, before this time, had nothing to look forward to but years of hopeless exile. It certainly carries with it the sympathies of most people."——The Government appear to be extending their countenance to the electric telegraph, and appreciating its importance, more and more. A detailed and specific plan of operations is said to be contemplated for the establishment of an immediate electro-magnetic communication between the royal palaces and the government offices, dockyards, garrisons, and fortresses, throughout the whole empire.——The Tunbridge Wells extension railway has been opened for general traffic. "The rail is nowhere above the surface of the town," says the *Morning Herald*. "At a considerable depth it passes under the very centre of it. From the former station, outside the town, it branches some 250 yards through a deep cutting, when it enters a tunnel 800 yards in length, which, within 70 or 80 yards, brings the visiter to the terminus." The station is in the Italian style. The terminus is close to the church, and as nearly as possible in the centre of the old and new towns. The tunnel forms two curves, and is said to be built with materials of the greatest solidity. The approach to the town on the Hastings side, by the Tunbridge Wells and Hastings line, is also by a tunnel, so that the existence of a railway at Tunbridge Wells is scarcely perceptible.——The cuttings for the London and York line began on Wednesday week at the north end of Barnsbury Park and Islington. The terminus is to be between Gray's Inn and Bagnigge Wells road, at the north end of the Middlesex House of Correction.——The Great Western have given notice of application for powers to erect bridges over their lines where the public roads cross on the same level.——The South Western have purchased 200,000 fir sleepers, of a very heavy and durable nature, it is said, in Prince Edward's Island. Some of them have been already landed at the Southampton docks. They are almost ready to be laid down as imported.——Five tenders for the tunnelling of the Birmingham, Wolverhampton, and Stour Valley line from Navigation-street, Birmingham, towards the grand central station, have been lodged; and that of Mr. Henfray, of Manchester, for 69,612*l.* chosen. The length of this contract is about a mile and three-quarters. "There was one rather remarkable fact," says a correspondent of the *Morning Herald*, "connected with the whole of the tenders (on two contracts on this line, which by the way were below the parliamentary estimates)—namely, there was comparatively very little difference between them in amount, considering the magnitude of the undertakings. It was quite obvious that there were no random or hazardous efforts made to secure the work, but that all the proposals were based upon sound calculations." ——The cost of the Bedford line, just opened, was 16,000*l.* to 17,000*l.* a mile. It is 16¼ miles in length, of first-class gradients, being almost wholly on a dead level and of very easy construction. Five stations have been erected in the style of the offices scattered over the estate of the Duke of Bedford.——A contract for 60,000*l.* has been taken, and operations have been already commenced, for the enlargement of the Stratford station of the Eastern Counties, at the junction of the lines, where a locomotive depôt is to be erected on 10 acres of ground. It is said that 200 cottages for the servants employed by the company are also to be built near the same spot with small gardens attached.——The foundation piling for the new railway station at Ely, an extensive building in the Italian style, is nearly completed. ——All the contracts for the works on the Ely and Lynn line, between Ely and Denver sluice, have been taken up, and the whole is to be completed by July next, if labourers, masons, bricklayers, and carpenters can be found. At present workmen for stations, culverts, bridges, viaducts, etc. are at a premium, and there is considerable competition for good hands amongst the sub-contractors. The bridge over the Great Ouze will be the greatest work on this line. It will be 120 feet span between the abutments, and 16 feet high, above low-water mark. The abutments, it is said, will be built of stone, with concrete foundations, sunk 20 feet under water. Semicircles of piles have been driven in the stream, on each side of the river, which are boarded and caulked like a ship's hull, to keep off the water while the men are at their work. The line for the rest of the way to Ely will run nearly on a ground level, but will cross about 50 bridges, viaducts, and culverts, over streams and wide drains; the district being intersected by the latter in all directions.

* Vide "Builder," vol. iv. p. 393.

THE NUISANCE ACT NULLIFIED.

The provisions of 9th & 10th Vict. c. 96, "For the more speedy removal of certain nuisances, and prevention of contagious and pestilential diseases," in cases "where the *existence* of any offensive or noxious matter can be proved;"—provisions from which great benefit was expected to result;—are likely to be altogether neutralized by the dilatory operation of this very Act for "speedy removal," as evidenced in a recent decision by Mr. Broderip, in the Thames Police Court, that the phrase and question of "existence" put the case before him (as it may do every other) out of his jurisdiction; the evidence, in that case, being to the effect, that though, on the 28th October, baneful effluvia were emitted from the sundry tons of putrifying flesh-adhering bones complained of, yet, when visited on Monday week, by witnesses for the defendant, the only effluvium emitted was the wholesome vapour of ammonia, a substance only calculated to antagonize the evil effects of the "villanous compound of smells" complained of, which was consequently not then in *existence*. Thus, in the lapse of time which the law allows, its provisions may be either nullified or evaded, and the most scientific evidence be rendered apparently contradictory. And thus too, by a quibble worthy of Martinus Scriblerus himself, the *existence* or non-existence of the noxious matter — namely, putrifying flesh and bones,—is identified with the existence or non-existence of the successive effluvia emitted by them, in the course of those changes incidental to the progress of putrefaction, during which identity of existence is sported with by that wondrous thimble-rigger Time, in a way scarcely comparable to any thing so aptly as to the subject-matter of the learned question of the identity of the existence of Sir John Cutler's worsted stockings, which were darned so long with silk, that it came at length to be a very grave and learned question, whether they were not silk stockings rather than worsted.

New Books.

Gutch's Literary and Scientific Register and Almanack for 1847. Simpkin and Marshall.

This little work contains an immense mass of useful information, with all the conveniences of an ordinary pocket-book. We cordially recommend it, though architecture is treated rather shabbily; the chapter under that head consisting simply of part of a chronological table, published by Mr. Godwin some years ago (not acknowledged, by the way), and a somewhat similar table afterwards published by Mr. Griffith.

City, Town, and Country Architecture. By Mr. S. H. Brooks. No. I. Williams, Strand. 1846.

The object of this work is to supply a series of original designs for street elevations, with working-drawings, specifications, &c.; and, if well carried out, it will be very useful. The wrapper, however, of the first No. is such a melancholy example of bad drawing and worse taste, that if we were certain it had been seen by the author, we should give up all hope for the book.

Ainslie's Brick Burning Kiln.—This kiln, for drying and burning bricks and tiles, is composed of various compartments, by which the heat from the first passes into the second, from thence into a third, and so on—thus economising the fuel; and, when the tiles in the first are burnt, the second are half-burnt, to which the greatest heat is then applied, and the chambers are taken in succession — the thorough drying of the bricks being completed by using the heat after it has completed the burning. This new apparatus has been proved on a large scale; and, unlike the common method, by which, frequently, one quarter of the article is spoiled, in this every brick and tile is said to be as perfect in shape as it entered, and as thoroughly burned.

[Advertisement.]

HOLBORN HILL VIADUCT.

Athenæum Club House, London, December 1st, 1846.

TO THE EDITOR OF THE BUILDER.

SIR,—I perceive you have, in your commendatory remarks on Mr. Stead's plan of the viaduct from Holborn to Snow-hill, observed, in your leading article of the 14th November, you had not then seen the financial details of the scheme. That defect I now beg to remedy by inclosing a printed copy of what a friend has extracted from the reports of the Commons House of Parliament, to which he now proposes to add only one-third for increase since its date in 1833, being thirteen years of the most unexampled prosperity and peace that the British empire ever enjoyed; and during which period the railroads have more than doubled the previous ingress and egress of *strangers into the metropolis:* the results are the most gratifying and remunerative.

I beg to add, that besides your own, the project has received the suffrages of many other influential and widely circulated journals, unbiased, and spontaneous; and that many of the leading members of the City Government are fully coinciding on its *plan* and *details*, and as a necessary consequence, the offers of taking shares are numerous, substantial, and satisfactory.

The necessary plans have been deposited with the authorities, and all other legal steps are being carried into execution to prevent any failure in Parliament from any want of form. I have no doubt its merits, and the great necessity for its completion, will carry it triumphantly through both houses, even if assailed there by ignorance or interested opposition, and it will there burst upon the world and the country, *un fait accompli*, as startling in its conception and execution, though we may easily believe not, like them, disastrous in effect, as the Spanish-France marriage or the unprincipled and tyrannical seizure of Cracow.

I remain your obedient servant, A COSMOPOLITE.

Evidence of the traffic passing this thoroughfare in the year 1833, and revised in the year 1839, before Sir Matthew Wood and a special committee of the House of Commons.

	£.	s.	d.
20,000,000 pedestrians: then suppose one-third, or 6,666,666 to pass over the viaduct .....at a halfpenny	13,888	17	0
87,640 equestrians: then suppose one-half, or 43,820, ditto at a halfpenny	91	5	10
372,470 carts and waggons at three halfpence.....	2,327	18	9
236,628 cabs, &c. ..... at one penny	985	19	0
218,100 omnibuses ..... ditto....	908	15	0
460,110 chaises and taxed carts ditto ..	1,917	2	6
384,942 chariots ..... ditto ..	1,478	18	6
	21,598	16	7
To rents of houses and shops.....	5,700	0	0
	27,298	16	7
By these data, it may fairly be assumed, since 1833, the traffic has increased one-third.....	9,099	19	2
Annual income	36,398	8	9
Minus annual expenses of repairs, toll collectors, and other agencies.....	1,300	0	0
Net annual income	35,098	8	9

The estimated cost of the viaduct, including purchase of property and compensation, 170,000*l.*

The public generally may judge for themselves, by the foregoing remunerative table, as to whether the Holborn Hill Viaduct will be a productive scheme or not.

1st December, 1846. VERITAS.

Miscellanea.

CHARING-CROSS.—In the thirteenth century, Charing was a small hamlet of some half-dozen houses; and the foolish tradition which asserts that it derived its name from "*chere-reine*," is sufficiently disproved by the name having been in use before the death of Queen Elinor. The cross that stood here was one of those erected to that queen's memory; but as to its being "from a design of Cavalini," later inquiries have proved that he had nothing to do either with the crosses or the monument in the Abbey—he being a boy at the time of Elinor's decease. From the curious rolls published by Mr. Turner in his "Manners and Household Expenses in the Thirteenth and Fifteenth Centuries," we learn that the cross at Charing was commenced by Richard de Crundale; who, dying before it was finished, left its completion to Roger de Crundale, the joint builder of Waltham Cross. The figures that adorned it were the work of Alexander of Abingdon. Indeed, there is every reason to believe that these beautiful crosses were almost entirely the work of Englishmen.—*Athenæum.*

CONSECRATION OF ST. JOHN'S CHURCH, FAILSWORTH.—This church, the foundation-stone of which was laid on August 7th, 1845, was consecrated on Thursday by the Lord Bishop of Chester, in the presence of a large assembly of the clergy. This church is designed in the early English style of architecture, by Mr. Shellard. It consists of a lofty nave, with clerestory, north and south aisles, chancel, western tower, with broach spire, and north porch. The tower, at the present time, is only carried to the height of the nave roof, in consequence of the shortness of the means placed at the disposal of the committee. The accommodation on the ground floor, and in the gallery at the west end, is for about 800, and the cost, without the tower, has been but little more than 2,400*l.* The builders were Messrs. Coulthurst and Foggett, of Cheetham Hill, and Messrs. Heyworths, of Todmorden.

ROCK-TOMBS AT MYRA, ASIA MINOR.—We devote to-day to the examination of the ruins; and repair, after breakfasting, to the group of rock-tombs a few yards south of the theatre, where the face of the bold hill rising above it is studded with carved sepulchres wherever the rock is of good texture. All of them are elaborately chiselled. Several have angular pediments, bearing groups of figures in low relief, and one or two are detached except at their bases, in imitation of built habitations. The greater number are of that striking and elegant form peculiar to Lycia, having square mullions and empanelled fronts, ornamented with flat projecting ledges, carved beneath in elegant imitation of rafters of wood supporting a roof. The whole presents the most unique and picturesque assemblage of rock-tombs in Lycia, and they have been considered as a group superior to any in Petra, by a traveller who has seen both localities. We separated, as usual, to examine the inscriptions; and, after collating the two or three copied by Sir C. Fellows, we were so fortunate as to find several others, both Greek and Lycian, that had never before been copied. More interesting than a hundred funeral inscriptions was one scratched or notched in the wall of the ante-chamber of a rock-tomb, by some Greek lover of old. It proclaimed his passion, "Moschus loves Philiste, the daughter of Demetrius." From these rock-tombs we literally stepped into the theatre, which is overlooked and joined by some of them,—a strange and unnatural union, the playhouse married to the grave—the playgoer resting against the house of death, whilst gazing on the most vivid of the recreations of life. The entrance to the theatre from below is by an arch supporting the seats at its southern extremity, and leading through a labyrinth of vomitories, passages, and stone staircases, to the diazoma. This enormous fabric has almost all its rows of seats perfect. Its diameter, according to Mr. Cockerell, who first discovered it, is three hundred and sixty feet. The arena is now a corn-field. A large portion of the proscenium is still standing. It appears to have been a highly finished building, the wings ornamented with polished granite columns surmounted by Corinthian capitals of white marble, one of which is still in its place.—*Travels in Lycia. By Lieut. Spratt.*

PROFESSIONAL EDUCATION.—What is the present education of our engineers, architects, and surveyors? A youth who may, or may be thought to possess "a taste for drawing," whose parents are what the world calls "well to do," is sent into the office of a man whose eminence must be in ratio with the sum paid for the articles. Here he finds others with the same happy genius as his own. Forthwith he is set to draw plans, elevations, and sections. He sees much, he hears much, he does much,—but is the wiser for none. His companions cannot instruct him, and his master has something more profitable to do than to teach tyros an art which engrosses his time and fills his pocket. Left to himself, by dint of time and practice, he becomes thoroughly acquainted with that all-important subject, "the routine of the office;" knows well the style of thing that suits client So and So, and the London and Somewhere-else-Railway; but of the elements, principles, theory, and practice of the science, few pupils carry with them from their masters' offices a thorough, or even sufficient knowledge. We are far from saying that a right-minded, talented youth may not, in the ordinary practice of an office, combined with earnest home-study, acquire a thorough knowledge of his profession; but this implies, what is not commonly found in young men, an innate love of learning and ardent desire of fame. It cannot be said that the picture is too highly coloured. We put it to the professions whether this statement of the manner of educating our young engineers, &c., is not strictly true? They will admit that the mere routine of practice is the great end of the instruction given; the acquisition of elementary and theoretical principles being left to the pupil's private study, or more probable utter neglect.—*Patent Journal.*

INTRA-MURAL BURIALS.—Mr. G. A. Walker's powerful lecture on this subject, last Friday, at the London Mechanics' Institution, was a knock-down blow to the system, from which it can scarcely recover. We look anxiously for the promised Government measure.

BED ROOMS.—"Their small size and their lowness," says Sir James Clark, "render them very insalubrious, and the case is rendered worse by close windows and thick curtains and hangings, with which the beds are often so carefully surrounded as to prevent the possibility of the air being renewed. The consequence is, that we are breathing vitiated air during the greater part of the night; that is, during more than a third part of our lives; and thus the period of repose, which is necessary for the renovation of our mental and bodily vigour, becomes a source of disease. Sleep, under such circumstances, is very often disturbed, and always much less refreshing than when enjoyed in a well-ventilated apartment. It often happens, indeed, that such repose, instead of being followed by renovated strength and activity, is succeeded by a degree of heaviness and langour, which is not overcome till the person has been some time in a purer air. Let a mother, who has been made anxious by the sickly looks of her children, go from pure air into their bed-room in the morning before a door or window has been opened, and remark the state of the atmosphere, the close, oppressive, and often fœtid odour of the room, and she may cease to wonder at the pale, sickly aspect of her children. Let her pay a similar visit some time after means have been taken, by the chimney ventilator or otherwise, to secure a full supply, and continual renewal, of the air in the bed-rooms during the night, and she will be able to account for the more healthy appearance of her children, which is sure to be the consequence of supplying them with pure air to breathe."

ARCHITECTURAL SCHOOL OF DESIGN.—We are requested to mention that it is proposed to hold a private meeting, in a few days, to take into consideration the best course to be adopted with regard to the formation of an Architectural School of Design; and it is requested that gentlemen favourable to the scheme will communicate with Mr. Keble, 12, Camden-street North, Camden-town, or with Mr. Gray before mentioned. Two correspondents suggest, that the Institute should aid the endeavour by granting the use of a room periodically.

A LUCKY ARCHITECT.—Mr. Shellard, the architect, of Manchester, is at present engaged in the erection of a church at Everton, Liverpool, for the Horsfall family, which will cost about 7,000*l.*, exclusive of the endowment, and of the expense of the schools to be erected in connection with it. The *Manchester Courier* says Mr. Shellard is at present engaged upon *twenty-nine new churches*, to be erected, or in course of erection, in the diocese of Chester and the neighbouring dioceses.

PROJECTED WORKS.—Contracts have been called for, by advertisment, for works in stone and wood at Holyhead Harbour; for a wooden swivel bridge, and other machinery and works in iron, stone, brick, wood, and concrete, at Folkestone Harbour; for a stone breakwater at Granton Harbour, near Edinburgh; for about ten miles of the Shrewsbury, and Birmingham, and Shropshire Union Railways; for maintenance of the way and works of the London, and South Coast Railway, &c.

THE SEWAGE COMPANY.—Notices have been given of the intention to apply to Parliament for an Act to enable the Sewage Manure Company to make drains, tunnels, sewers, &c., under the city, to Barking-reach, where reservoirs, &c., are to be formed for the reception of the manure.

DESTRUCTION OF ANTIQUITIES.—The Town Council of Gloucester have determined, by a majority of *one*, to destroy the ancient Booth-hall in that city. The Archæological Association should make some efforts in its favour, and endeavour to avert the contemplated act of Vandalism.

WAGES IN IRELAND.—There are now employed on the works of the Waterford and Limerick Railway, in and about Limerick, 120 carpenters at wages varying from 3s. 4d. to 4s. per day; 52 smiths earning from 3s. 10d. to 4s. per day; 250 masons at 4s. 4d., and 50 labourers at 1s. 6d.

REWARDS TO SCIENCE.—At the anniversary meeting of the Royal Society, on Monday last, medals were presented to M. La Verrier, for the discovery of the new planet which bears his name; to Faraday; and to Professor Owen. A cloud of honours, narrowly escaped by an Englishman, is falling over La Verrier.

TENDERS

For the alterations and additions at the Basingstoke Union Workhouse, Mr. S. O. Foden, architect, on the 27th of November, 1846:—

Thompson (Basingstoke)	£2,348
Thorne (ditto)	2,250
Cooper and Davis (London)....	2,145
Kerk (Lincoln)	2,100
Nichols (Basingstoke)	2,100
Mason (London)	1,999
Gover (Winchester, accepted) ..	1,990

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

TUESDAY, Dec. 8.—Freemasons of the Church, 3, Great Newport-street, 8 P.M. (anniversary); Syro-Egyptian; 71, Mortimer-street, Cavendish-square, 7½ P.M.

WEDNESDAY, 9.—Society of Arts, Adelphi, 8 P.M.; Graphic Society, Thatched House Tavern, 8 P.M.

THURSDAY, 10.— Royal Society, Somerset House, 8½ P.M.; Society of Antiquaries, Somerset House, 8 P.M.

FRIDAY, 11.—British Archæological Association, Sackville-street, 8 P.M.

TO CORRESPONDENTS.

"*E. H. M.*"—We are obliged by the offer, but do not think it advisable. Drawing shall be returned.

"*J. J.*" shall hear from us.

"*G. H.*" (*Lancaster*).—30s.

"*A Traveller.*"—We shall be glad to see the book, and will return it safely, whether used or not. We know a "clever stone carver," and would send him to an address, if named.

"*Zinc Work.*"—A Correspondent inquires where a machine may be obtained "for making zinc guttering, sash-bars, &c.

"*Old Brompton.*"—Lord Morpeth, office of Woods and Works.

"*Baths and Washhouses.*"—A Correspondent suggests that the carcase of the theatre in Portman-market might be made available for an establishment of baths and washhouses.

"*R. S.*"—The sketches will scarcely suit us. Thanks. The book shall be left at the office.

"*H. B.*"—Seventeen windows pay 4*l.* 7*s.* Eighteen windows 4*l.* 15*s.* 3*d.*

"*Dorus.*"—No. 48 can be had through any bookseller. Most of the numbers from 84 to end of second volume are out of print.

"*Young Builder*"—Will find information at p. 465, *ante*.

Received.—"G. L. T.," "Vincent Yardley," "G. H. L.," "C. C.," "W. L. B. G.," "Veritas," "R. Adair," "B. P. T.," "Z. A.," "Ante Humbug."

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

By Her Majesty's Royal Letters Patent.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED METAL.— This article was at first sold under the name of Galvanised Tin Plates, but the Patentees finding that the public, in some instances, overlooking the word Tin, confounded the article with Galvanised Iron, and that the character of their metal has thereby sustained injury, are desirous of giving it a name so distinctive as to prevent such mistakes, and consequent disappointment to purchasers in future. They therefore respectfully request purchasers to inquire for MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON. In order to enable the public readily and at first sight to distinguish between the two metals, it may be well to inform them, that Galvanised Iron has a plain zinc-like appearance, while M. and R.'s Patent Galvanised Tinned Iron has a smooth crystalline surface.

MOREWOOD and ROGER'S PATENT GALVANIZED TINNED IRON, Patronized by the Admiralty and the Honourable Board of Ordnance, being extensively used in her Majesty's Dock-yards, at the Tower, and elsewhere, for every variety of Roofing, and other purposes, where a strong, light, cheap, and durable material is required.

It has been found by experience that this article is beyond all comparison superior to zinc; possessing, as it does, all the advantages arising from the strength and firmness of iron, combined with perfect immunity from rust; whilst it is free from the very serious objection which applies to zinc, viz. its contraction and expansion, consequent upon every change of temperature, and from which circumstance leakage must of course result.

This material is not likely to be destroyed by fire, as is the case with zinc and lead, which melt and run down, thus freely admitting fresh air to the fire, and causing it to burn more fiercely. It is, therefore, obviously well adapted for all the purposes above-named, and most importantly so, when there is the possibility of fire. It is also peculiarly suitable for chimney-tops, gutters, spouting, and out-door work generally, possessing the strength of iron, without its liability to corrosion. It is by far the most economical metal roofing that can be obtained, in consequence of its strength, as it may be laid without boards, and upon the lightest rafters.

his mode of preserving metal from rust does not only apply to sheet-iron, but also to manufactured iron in any form, as bolts, nuts, hinges, nails, &c. &c.

For full Particulars apply to S. HOLLAND, 34, Grace-church-street.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform architects, surveyors, builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen stone business, to the above extensive premises, where a large stock will be kept up by continual fresh arrivals from their quarries at Allemange. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.—Orders shipped direct from Caen to any port.

The Waterman steam-boats call at Lavender-wharf, adjoining Caen Wharf.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.— Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

ARCHITECTS and SURVEYORS will find by making their selection of MARBLE CHIMNEY-PIECES at the Westminster Marble Company's Show Rooms, containing a great variety of elegant drawing and dining-room chimney-pieces, executed in a superior manner, and sold at such reduced prices to enable the public to realize a great saving, by their patent machinery. An unabated zeal will be maintained to continue the patronage so liberally shown to this establishment.

Address, East-street, Milbank.

N.B. Country Orders promptly attended to.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects and others that GOTHIC WINDOWS, and every other branch of Stone-work, &c., is executed at the cheapest possible rate, and packed for the country ready for fixing or fixed, enabling ARCHITECTS to have the most difficult TRACERY for CHURCHES, or other buildings in the PROVINCES, executed under their immediate inspection in TOWN.

BUILDERS and MASONS can have every description of Stone in the London Market, either in the rough block, or cut to sizes from the saw, or prepared ready for fixing or fixed, avoiding either waste in the goods or carriage.

Box Chimney-pieces from 12*s.* upwards.

THE WORCESTER ENCAUSTIC TILES, in all their beautiful variety, may be inspected, in addition to the usual extensive stock of Chimney-pieces and FONTS.

Estimates given for building generally.

BARRETT, STONE MERCHANT, 24, Wharf, Harrow Road, Paddington, respectfully informs Builders, Stone Masons, and others, that he has opened a Depôt at the Great Western Terminus for the sale of Wall's Quarry Stone. Having been established at the above place for the last twelve months, and the sale of the stone increasing so much, the Great Western Company has had the kindness to favour me with a Depôt at their Terminus. The Wall's Quarry Stone is equal to Portland for Staircases, Hall Floors, Porticoes, Balconies, Chimney-pieces, Coping, Window Sills, &c. The same stone being used in Gloucestershire for all the above purposes. The stone is sawn to all sizes while in the Quarry to save expense of waste and sawing in London, on which account can be rendered much cheaper, and is free from all flints, shells, and holes.—List of prices and samples sent to any part of London, carriage free, by directing all letters to No. 24, Wharf, Paddington.

P.S. Nailsworth and Paniswick Stone in Block.

DECORATIONS in WOOD.—The unrivalled perfection at length attained by the patent process of Carving, enables its proprietors to offer to the public, at an extremely reduced price, every possible variety of Carved Wood for external and internal enrichment—thus substituting the genuine material for those numerous imitations which have invariably been found fragile or unsatisfactory.

Mouldings and Carvings of all kinds are thus supplied, adapted for Church or Library Fittings, Altar Chairs, Picture Frames, Chimney-pieces, and every description of Gothic or Elizabethan Furniture.

Specimens may be seen and Drawings obtained at the Patent Wood Carving Offices, 444, West Strand, or at the Works, Ranelagh-road, Thames-bank.

ESTABLISHED MORE THAN A CENTURY.

JOHN MACHEN and SON, CONVERTERS and REFINERS of STEEL, and Manufacturers of Cast-Steel Files, Rasps, Screw-Bolts, Screws, &c., beg to inform their Friends, and all large purchasers of Steel, Files, &c., that they have, in conjunction with their Manufactory at Sheffield, established a Depot in London, at No. 7, EARL-STREET, NEW BRIDGE-STREET, City, for the convenience of supplying their valued connexion in London and the south of England.

J. M. and Son deem it almost superfluous to speak of the quality of the goods manufactured by them, tested as they have been for more than a hundred years, and approved of by a great proportion of the largest consumers in Great Britain; suffice it to say, that the same strict attention will be paid in every department of the manufacture so as to merit the confidence they have hitherto enjoyed.

J. M. and Son respectfully solicit a trial from those who are not yet acquainted with the quality of their goods. A large and well-assorted stock will always be kept on hand at the London Warehouse, 7, Earl-street, New Bridge-street.

Agent—W. S. ALDERTON, Steel Pen Manufacturer.

JENNINGS'S SHUTTER FASTENER.

Shop Fronts are more damaged and disfigured by the Shutter Bar than from any other cause. Bars are a trouble to put up and take down, and troublesome when down. JENNINGS'S REGISTERED SHOP SHUTTER FASTENER supersedes the destructive Bar, and answers the purpose also of a shutter-shoe. The shoes and fasteners being made of brass, afford greater protection to the corner of the shutter, and leave no rusty deposit on the stall-board in damp weather. Hundreds of shops have been secured by the inventor, and testimonials of their ease and efficiency may be obtained from the occupiers. A front, containing eight shutters, secured for 24*s.*, or a new front shod and secured for 40*s.* A liberal discount allowed to Builders, Ironmongers, and Painters, who introduce it to the notice of persons whose shops they decorate. To be had of the Inventor, 29, Great Charlotte-street, Blackfriars'-road; or of any respectable ironmonger,

TO ARCHITECTS.

THE attention of Architects is directed towards the new Patent for CARVING IN WOOD, STONE, and MARBLE, by MACHINERY. This interesting invention will enable them to see their plans carried out, which in many cases they are prevented doing, owing to the enormous expense attending hand-carving. The work, when executed by this machine, whether in stone or wood, has the appearance of hand-carving done in a masterly style. Monuments beautifully executed to any design, at an immense saving in price. The works are in full operation, and Architects are invited to inspect their merit at Eccleston-place, Eccleston-street, Pimlico, late Chauntrey's foundry.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 20 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

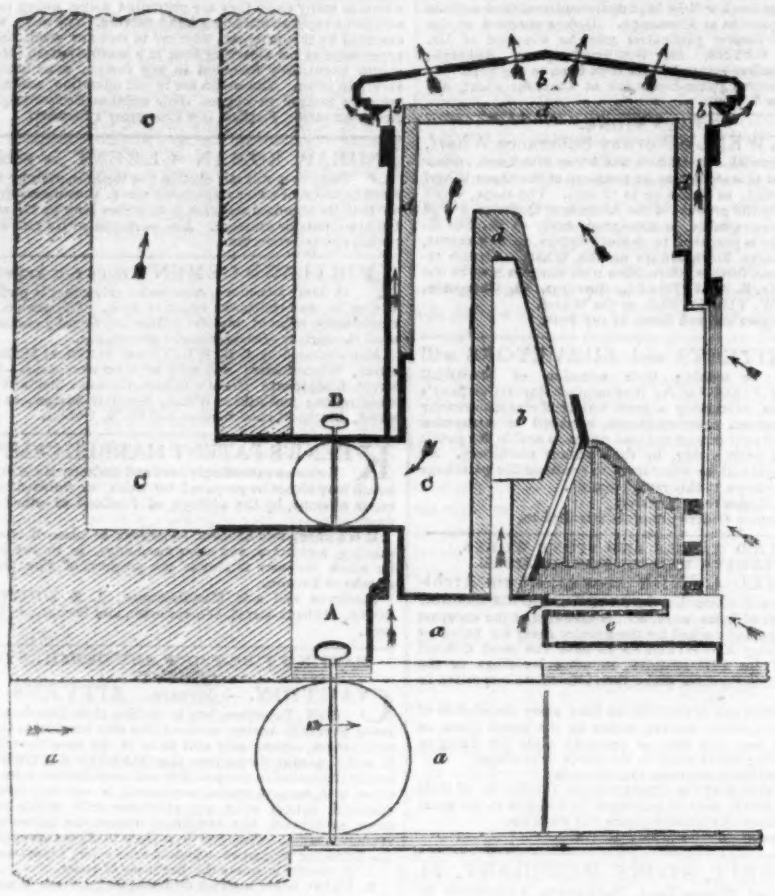
JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

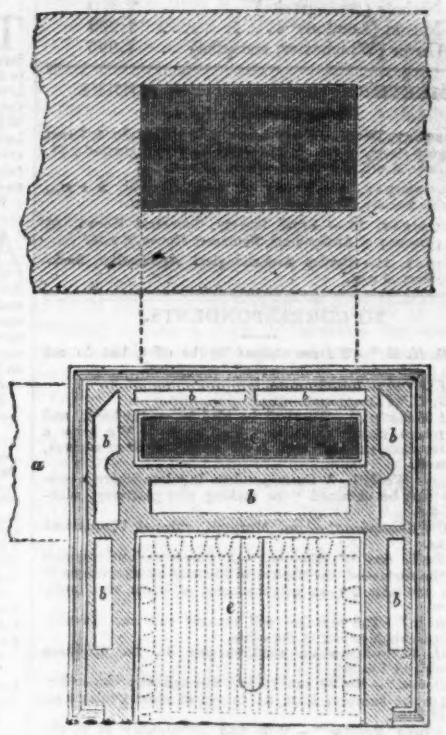
Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, producible by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

CUNDY'S PATENT IMPROVED OPEN FIRE PLACE, HOT AIR, VENTILATING STOVE.





PLAN.

Description of Diagram.

a a a a Fresh air channel, for admission of external air.
b b b b Hot air chambers (formed with artificial stone, *d d d d*) through which the air passes into the room, and is heated without being injured.
C C C The direction the smoke and vitiated air takes after it has passed through the fire and heated the artificial stone of the hot air chambers.
e Blow pipe to preserve perfect combustion placed immediately underneath the grating of fire place.
A and D are regulators.
The arrows shew the way the external fresh air is admitted, next passing through the hot-air chambers into the room, and lastly taken out of the room through the fire and up the chimney—thus completing ventilation.

This STOVE embraces the following most important principles connected with the economy of

WARMING AND VENTILATING CHURCHES,

And other Public and Private Buildings, viz.:—

HEAT by RADIATION from the Open Fire.

HEAT by CONDUCTION.—A copious and continuous stream of PURE WARM AIR is conducted into the room through the large Stove, at a regulated rate, by means of an air channel underneath the floor, communicating with the external air.

HEAT by REFLECTION.—The external casing of the Stove becoming warm, communicates its heat to the surrounding atmosphere.

VENTILATION produced by the OPEN FIRE—which will carry off the Vitiated Air through the chimney at the same rate the Pure Air is conducted into the room through the interior HEATING APPARATUS of the Stove, thereby keeping up a regular and agreeable system of Ventilation.

ECONOMY of FUEL.—This Stove, from the peculiar construction of the Fire Place, will produce a most BRILLIANT FIRE with the least possible quantity of fuel, and will continue to burn so long as any particle of coal remains.

TESTIMONIALS AFTER A WINTER'S TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my temporary church, and found them to succeed so well, that I have introduced them into All Saint's Church, St. John's Wood.

The following reasons induce me to approve of them:—Exemption of effluvia; the emission of a great body of pure warm air; the perfect system of ventilation; the sight of the fire; the consumption of vitiated air; the little attention requisite; the cleanliness connected with them; and though last, not least, the great economy of fuel.

All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent, and recommend all my friends to do the same. Yours truly,

ED. THOMPSON, M.A.
Incumbent of All Saint's, St. John's Wood.

29, Charter-house-square, Monday, Feb. 17, 1846.

DEAR SIR,—The Stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves; and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,
JN. WM. ROGERS, St. Thomas's Charter-house.

St. Thomas's, Charter-house.

We, the undersigned, do hereby certify, that during the last three winters we suffered severely from the cold in the Church of St. Thomas's, Charter-house, although we had three large Arnott's Stoves, which consumed one sack and half of coals each day they were lit. The building was never warm; in consequence of which the congregation fell off, though we had a zealous preacher in the Rev. Dr. James. We have now two of Cundy's Patent Stoves, which consume but one cwt. of coal per day between them, and they impart to the church a comfortable heat and ventilation. WILLIAM BUSHMAN, Verger.
THOMAS GEORGE, Beadle.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my testimony to the efficiency of your Stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired; and I can honestly say, that I have not yet discovered the point in which the practice falls short of the theory.—The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realised all that you had given me to expect. If confirmation were needed for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with,—that various attempts had been made, and that every attempt had proved a signal failure,—that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your Stove, that I know not of a dissentient voice, and have heard only of approval with unanimous consent.—I might add, that I was first led to the making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, Dear Sir, yours faithfully, WILLIAM GARRATT, Minister of St. John's, Fulham.

Letter from the Rev. MATTHEW O'BRIEN, (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., &c., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's Patent Stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying from actual experience, that Mr. Cundy's Stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell. MATTHEW O'BRIEN.

*** Since this stove was put up, four others have also been fixed, one of which is placed in the Medical Library.

Letter from Professor BRADLEY.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this Institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling-room, which is entirely avoided by your arrangement.—I am, Sir, your obedient Servant, THOMAS BRADLEY.

To be had of the Manufacturers,

MESSRS. DOWSON, 69, WELBECK-STREET, CAVENDISH-SQUARE,

Where they may be SEEN IN OPERATION, and where also may be seen an ELEGANT assortment of REGISTER and other STOVES, FENDERS, CULINARY APPARATUS, &c. &c. ARCHITECTS and BUILDERS supplied with IRON and BRASS CASTINGS, at Messrs. DOWSON'S FOUNDRY, 5, SEYMOUR-PLACE, BRYANSTON-SQUARE. Smith's Work, Gas Fittings, and all other works appertaining to a Smith and Founder, undertaken at estimated prices.